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Science & Technology

USSR: Science & Technology Policy

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Koptyug Opposes Dissolution of USSR Academy of Sciences

927A0019A Moscow SOVETSKAYA ROSSIYA
in Russian 15 Oct 91 p 2

[Interview with Vice President of the USSR Academy of Sciences Academician Valentin Afanasyevich Koptyug, Hero of Socialist Labor and chairman of the Siberian Department of the USSR Academy of Sciences, by N. Lukyanova; date and place not given: "You Cannot Preserve Science on Your Own. An Afterward to the Discussion at the USSR Academy of Sciences"—first two paragraphs are SOVETSKAYA ROSSIYA introduction]

[Text] As we have already reported, the general meeting of the USSR Academy of Sciences was held in Moscow the other day. After long discussions its participants came to the conclusion that the destruction of the scientific structure, which was formed within the former Union, is intolerable. But it was also no less important to come to an agreement on how and at whose expense it is possible to preserve this structure, the level, and the pace of basic scientific development.

After the general meeting we asked Vice President of the USSR Academy of Sciences Academician V.A. Koptyug, Hero of Socialist Labor and chairman of the Siberian Department of the USSR Academy of Sciences, to share his thoughts.

[Koptyug] A very grave situation has formed. In recent years the prestige of science has declined catastrophically in society. The assets, which were allocated for its development, did not keep up with inflation. The average wage of a science worker does not exceed the subsistence level. As a result more and more young scientists—I am talking about those who have already acquired high skills, but are still full of physical and creative strength—are going abroad or are throwing themselves into business. Both the former and the latter are entirely acceptable provided that these processes entail the development of the system of our basic research. If breaches appear in our basic science, the country will find itself lagging behind the entire civilized world. The preservation of the stock of basic research is a matter of honor for scientists. This opinion is unified, there are no differences here. But assets are needed for this research. For the present it is not clear whether the financing of science will be union, Russian, or mixed. One thing is obvious: The replacement of one sign with another will not save us.

In favor of what first of all am I and my colleagues from the Siberian Department of the USSR Academy of Sciences coming out? For the gradualness of reforms, for thoroughly justified changes. We would be making a most gross mistake if we were to eliminate the USSR Academy of Sciences in a single instant. However the opponents curse it, it has two and a half centuries of history behind it. Immense organizational and practical

experience, first of all in the area of basic research, has been gained. It is at least unwise to give it up.

It is no secret that the union academy, which settled on the territory of Russia, consisted mainly of Russian personnel. Moreover, Russia contributed to the union budget three-fourths of its revenues. And all the same it would be unjust to deny the participation of the union republics in the activity of the USSR Academy of Sciences. And this is not the simple arithmetical addition of efforts. This is a new high-quality stage of the development of Soviet science in general. Any version with division will throw it far back.

I have associated much with scientists from other republics—everyone is interested in joint work and mutually advantageous cooperation. What a paradox! We are striving with all our might to expand ties with foreign colleagues, but often have a confrontation with those, with whom we have lived long years within a unified state.

I am convinced: It is too early to give up the Soviet Union for lost. It is not necessary to run in front of the steam engine. People will yet come to understand that they cannot survive on their own. And then the centrifugal forces will begin to change into centripetal forces.

[Lukyanova] And all the same, Valentin Afanasyevich, if the Russian Academy of Sciences exists simultaneously with the USSR Academy of Sciences, two major academic structures with similar functions will appear on the territory of Russia. Will this not lead to conflicts and differences in the scientific world?

[Koptyug] It is possible to settle everything in a reasonable way. The main thing is to strive not for delimitation, but for unification. In the future the union and Russian academies should be merged in a unified scientific conglomeration, which works in the interests of both Russia and the entire country. But for the present it would be advisable to convert the USSR Academy of Sciences to a union-Russian status. What does this mean? Let the bulk of the scientific institutes be united under the aegis of the Russian Academy of Sciences. Incidentally, new scientific associations—the Russian Academy of Natural Sciences, the engineering and technological academies of Russia—are already operating on the territory of Russia. And this is splendid! Russia needs to increase its intellectual potential. But an all-union coordinating structure—for example, the Academy of the Union of Sovereign States—which is supported, say, by interrepublic research centers, should also exist. This will help to pursue a unified science policy on the territory of the Union, as well as to preserve the common information system, common library collections, and so on.

[Lukyanova] Alas, for the present it is too early to talk about the experience of other states as applied to our country. There is just one, at first glance, quite simple question: How is one actually to save the disintegrating scientific collectives?

[Koptuyug] Much will now depend on the wisdom of the Supreme Soviets of Russia and the Union. Will politicians understand that basic science is the future of the country? Of course, it is also necessary to solve immediate problems. How are potatoes to be harvested? How are people to be fed? What is one to wear on one's feet? But in society everything is interconnected. If we neglect science, we will live worse at all levels.

As to the financing of science. Although the state has few assets, they should be distributed in an efficient and coordinated manner. Scientific institutes need to know a year ahead how much money they will receive for one program or another. Then it is possible to enlist forces, to conclude agreements, and to sign contracts. As throughout the civilized world. For the present our scientists do not know thus far which scientific programs will be approved for 1992 following the elimination of the State Committee for Science and Technology....

I will speak about one other thing. Collectives must not try now to live on their own. At the time of economic instability only a collective structure of management can maintain them.

[Lukyanova] Which scientific programs, in your opinion, should be priority ones today?

[Koptuyug] It is very important to develop biotechnology. Neither medicine nor agriculture can get by without it. As for scientific and technical programs, in first place, I believe, is the complete processing of raw materials. This is not just the saving of resources. This is a real opportunity to avert an ecological catastrophe in the country.

Academician Moiseyev Defends All-Union Academy Structure

927A0019B Moscow ROSSIYSKAYA GAZETA
in Russian 8 Oct 91 p 1

[Article by Academician Nikita Moiseyev under the rubric "Opinion": "The Respected Scientists Should Gather Together"]

[Text] Russia is now at a turning point of its history. A difficult and unexplored path lies ahead. It has to find its political and economic position in the world community and to provide a humane existence to all of us who are Russia. Its culture, intellect, and spiritual life should acquire the opportunity for free development and win respect.

And in this activity the Academy is called upon to play an invaluable role. Now there are many academies in the country, but I have in mind the one, which was founded by Peter the Great and was renamed by a decree of the All-Russian Central Executive Committee the USSR Academy of Sciences in 1925. (Now it is being proposed to return the old name to the Academy. I do not want to go into the details of the disputes in this regard, but I think that the original name should be returned to it, in

much the same way as they have returned to Petersburg, Tver, and other cities their own names.)

But renaming itself does not settle the basic questions. The main thing is not to take a wrong step, as a result of which we may lose the intellectual potential of the nation. What is it a matter of? First of all, all-union scientific programs, which cannot be split into individual republic programs, exist. Second, we have many scientific institutes, such as the Physics Institute of the USSR Academy of Sciences, for example, which are also of interrepublic significance. To this it is necessary to add several very large institutes of the former ministry of medium machine building. Therefore, some structure, which would combine this scientific activity, is necessary. And not just of the all-union level. In several of our programs and institutes the participation of other countries is also entirely possible. Thus, for example, the participation of the FRG in the work of the joint institute for nuclear research in Dubna is proposed. All such decisions require a considered, weighed decision of the most responsible organs of the Union of Sovereign States. Under the present conditions of rapid scientific and technical progress the intellectual potential is the greatest asset of the country and is more valuable than petroleum, metal, and computers. The rebirth of Russia and the restoration of its economy require a skilled systems analysis and the participation of the best minds of the country.

Here are several examples of how science can do some work for the future and for present-day Russia.

Example one. Among the large number of questions, which require immediate analysis and the elaboration of the strategy of the Russian State, the problem of its power engineering is urgent. Academic science has prepared a solid foundation for such an analysis. But life outdistances any forecasts, and much will have to be specified and changed. And much will also have to be corrected, for it is a matter of not union, but Russian power engineering. Moreover, it is necessary to link it with the development of technology and the general technical policy of the Russian State—about which for the present they are still not thinking. Finally, intra-union trade in power and power resources is another problem. Trade at international prices is impossible—this will plunge all the other republics into catastrophe. If we help the others, for whom it is more difficult, this will create the necessary moral climate and will aid common development in the future.

Example two is of a regional nature. Let us take the same Moscow region. About 15 million people live in it, but it produces more than 10 percent of the gross product of the country, that is, about two-thirds of the gross national product of the entire Ukraine and nearly as much as all of Poland with its population of 40 million. It is necessary to put this force to work intelligently at full capacity and to restructure in the necessary manner the industry of the military-industrial complex, which is located in Moscow and its environs.

A free hand is first of all needed for the potential of the Moscow region to be set into motion. But science can also give enormous assistance here! Thus, for example, the threads of ties (existing and potential) have stretched from Moscow enterprises throughout the world. Even simply the development of data banks on these ties can be of invaluable assistance to the captains of industry! Incidentally, such activity is quite elementary. Work of another type is considerably more interesting and promising. I have in mind the analysis of economic opportunities, when during the transition period in reorganizing ties one has to compare different versions of directions, efforts, and capital investments and to choose the most advantageous one.

Example three. I have dealt much with the economic, ecological, ethnic, and social problems of Kamchatka. I know that without a professional and scientific analysis it is impossible to propose an efficient plan of the development of this region, which is very important for the country. And, thus, it is impossible for the state to formulate the corresponding investment and tax policy and system of benefits.

It would be possible to indicate a large number of other problems of regional development, the solution of which requires diverse skills and culture. It is dangerous to shelve them until after the crisis, but it is dangerous to make a decision without a serious extradepartmental and extraregional analysis!

It must be clearly realized that it is easier for us, the Russians, than for any other republics to escape the sucking swamp of the Bolshevik system. If we get out, we will also help get out the other 14 that have gotten into the same drag net. If the Russian economy recovers, it will be better for everyone. And science can play a prominent role in this process. Therefore, here is what I propose: It is necessary to set up immediately an academic committee made up of respected and competent scientists, which is similar to the committees which were set up during the war. And to outline a plan (not a program, but a plan) of work.

But this committee should be outside the bureaucratic structures of the presidium, which are capable of multiplying by zero all the good ideas and of drowning them in senseless procedures and scribbling. While the committee will form the working collectives itself. And it is very important for its basic performers to have direct access to the highest officials of the republic.

The settlement of the raised questions must not be postponed!

Problems Facing USSR AS General Meeting Outlined

927A0021A Moscow PRAVDA in Russian 10 Oct 91 p 1

[Article by A. Pokrovskiy: "The Academy Chooses Fate. The General Meeting of the USSR Academy of Sciences Has Opened"—first paragraph is PRAVDA introduction]

[Text] At their meetings academicians usually elected new members of the highest scientific institution of the country. This time life has faced them with the necessity of choosing their subsequent fate. Given the general collapse of the central structures of the country there was nothing else to expect. Moreover, the rapid process of the establishment of the sovereignty of the republics exposed the sad truth that the largest of them—Russia—does not have its own Academy of Sciences, although the majority of scientific institutions of the USSR Academy of Sciences are located precisely on its territory.

Moreover, when objectively appraising the situation, one will have to admit that in recent years the USSR Academy of Sciences has lost more and more the image of the all-union headquarters of scientific and technical progress. It has begun to be perceived by the scientific community as a bureaucratic monopoly, which intentionally or unintentionally suppresses scientific dissent. And besides discontent with the bureaucratic methods of management, with the poor development of competitive principles, and with the distribution of assets not for promising ideas, but among already existing scientific directions has ripened within the academy itself.

But what should the relations with the republic academies be like? For these, as a rule, are the offspring of the "large academy," which is its indubitable historical service. The "children" are now standing confidently on their feet, but a unified scientific space, much like the economic space, is, undoubtedly, required for their overall subsequent development. What means are visible here?

Such, for example, is the set of problems that face the general meeting of the USSR Academy of Sciences. It arose, of course, not suddenly and in recent times has been actively discussed in the press. Mainly "rank and file academicians," it is true, wrote. The leadership of the USSR Academy of Sciences maintained silence, although it was well known that it had meetings with the president of the country, although it was clear that for the fundamental solution of the problems it would have been useful to distribute in advance to the meeting participants if only a draft of the decree and to take the opinion of the scientific community into account. However, in the good student traditions the preparation of both the report of President of the USSR Academy of Sciences G.I. Marchuk and other documents was carried out literally on the last night before such a serious examination. It remains to be hoped that it will be passed with a grade of "excellent."

A detailed report from the general meeting of the USSR Academy of Sciences will be given in the next issues of PRAVDA.

USSR AS Presidium Shifts Position Over Reorganization Issues*927A0021B Moscow PRAVDA in Russian 11 Oct 91 p 1*

[Article by A. Pokrovskiy: "There Is Not a Single Meeting Without Agreement. How the USSR Academy of Sciences Is Deciding Its Fate"—first two paragraphs are PRAVDA introduction]

[Text] How can one not agree with the speaker, President of the USSR Academy of Sciences G.I. Marchuk, that the activity of the academy in connection with the processes that are taking place in our country requires adjustment and, perhaps, radical change. And he proposed to trace the work of the presidium of the Academy of Sciences on the solution of the arisen problems in chronological order, "since events have developed rapidly."

This is an interesting chronology. Let us trace it in an account that is close to the text of the report.

On 12 September 1991 the president and vice president of the USSR Academy of Sciences met with USSR President M.S. Gorbachev. He stressed the importance of basic science in the country and its significance for the development of integration processes in the Union and noted that science needs help and that all these questions should be considered at a meeting of the USSR State Council.

On 16 September the members of the USSR State Council discussed with much interest the latest problems of basic science and greeted favorably the measures that had been elaborated by the presidium of the USSR Academy of Sciences with the participation of the scientific community. Another issue, however, remained: interaction with the Russian academy of sciences, which is being formed in conformity with decisions of the Supreme Soviet and government of Russia.

And right here it turned out that instead of agreement disagreement began. "At the meeting of the presidium of the USSR Academy of Sciences," the speaker noted, "which had examined the results of our proposals in the State Council, after lengthy discussion a decision, which to a significant extent altered our initial positions, was made."

The conclusion? To begin a new round of consultations. On 23 September the leadership of the academy met again with M.S. Gorbachev. "He confirmed the great interest of the Union in the preservation of a unified basic science in the country and reported once again that all questions of the financing of basic science would be settled, while the status and structure of the academy (take note!—A.P.) should be determined by the scientific community itself."

It is clear, it would seem. But, the speaker noted, it was necessary to find out the attitude of the Russian leadership toward the status of the Russian academy. On 25 September there was a new meeting, this time with R.I.

Khasbulatov. "The meeting was held in a friendly atmosphere," it is stated in the report, "Comrade Khasbulatov, who reported that he had had a conversation with M.S. Gorbachev and that his position had been approved by B.N. Yeltsin, summarized it."

At last the consultations, it appears, were over, and G.I. Marchuk proceeded to the specific conclusions by points.

1. The formation of a unified Russian academy of sciences on the basis of the approved principles of the Academy of Sciences of Russia, which is being newly established, and the USSR Academy of Sciences. For these purposes to establish a special commission made up of representatives of the organizing committee of the Academy of Sciences of Russia and the USSR Academy of Sciences, which should by the end of this year prepare proposals on the procedure of the unification and election of governing bodies.

2. The settlement of the issue of the property of the Academy of Sciences. This should become a discussion topic of a special general meeting of the unified Russian academy, in accordance with the results of which it will be necessary to prepare proposals for union and Russian state organs on the attachment to scientific collectives of rights to the use of lands and premises and on privileges in the area of tax and credit policy.

3. The rights of institutes in the area of the disposal of the assets, which have been allocated by the state for basic research, are being broadened drastically. In the final analysis they are forming a voluntary association of scientific institutes with their own charter.

4. The USSR basic research fund and basic research funds of the sovereign republics for the competitive financing of scientific research are being established.

5. The Academy of Sciences of the Union of Sovereign States is being established as an association of scientists, which could carry out the scientific supervision of major international scientific centers.

6. The union academy of sciences needs to increase the representation of the members of the academies of sciences of the sovereign republics. It would be possible to begin the implementation of this proposal immediately, following its approval by the interested republic academies of sciences.

As you see, the majority of these proposals reduce to the need for new consultations. Of course, the strictest weighing of decisions is needed in such a most complicated matter. But the academy leadership's own clear, well-argued stand is expensive. Now the energy of scientists is being spent more on various kinds of shakeups, as one of the speakers expressed himself, "in pursuit of politicians." And here, after all, is the misfortune: no matter what decision the present general meeting makes, it, to all appearances, will not be the final one. Another conference—of the scientific community—is being

planned. For the next, one must assume, agreement. Will they not lose science itself behind organizational issues?

USSR AS General Meeting Ends in Uncertainty

927A0021C Moscow IZVESTIYA (Union edition)
in Russian 14 Oct 91 p 2

[Article by Yu. Danilin and K. Smirnov: "Academicians Ought Not Keep Up With Politicians. The General Meeting of the USSR Academy of Sciences Has Concluded. Perhaps, the Last One"]

[Text] For the first time in many years the general meeting of the academy did not examine the problems proper of science. And as is now clear, before long these problems simply might not exist. It is possible, of course, to blame the scientific community itself for what is happening. And there are serious reasons for this (the indecision of the presidium, endless compromises, the inability to defend the interests of science in governmental spheres). But is the present situation confined to this?

No, of course. It is regrettably necessary to admit that our entire society is to blame for the unenviable state of science. We can imagine how old-fashioned such a generalized accusation is. And nevertheless, in our opinion, this is precisely the case. In this sense in the world there is no society like ours. Only in our country can the future of the academy seriously depend on the chance opinion of one politician or another. Perhaps, even one who does not trouble himself with intellectual pursuits and, therefore, cannot imagine their value.

It is now fashionable in this connection to recall wholesale with an unkind word all 74 Soviet years, and recently there even appeared in the press the assertion that during these years our science was not occupied, strictly speaking, with anything, except living on the dividends and traditions of prerevolutionary science. Disagreeing in his speech with this "point of view," Vice President of the USSR Academy of Sciences Academician Zh. Alferov, chairman of the Leningrad Scientific Center, noted that science, by the way, in successfully developing these traditions, gained world authority, to which a number of Nobel Prizes, with which prominent scientists of the academy of Soviet times were commended, testifies.

It is now far more useful, it seems, not to let one's thoughts flow over the tree of decades, but to concentrate on one's own times and to understand that during the more than six years of perestroika, in spite of the decent number of deputies who are academicians and professors in the parliaments of different levels, normal conditions of the existence of science in the new, drastically changing, still far from beautiful, but, as we said, undoubtedly already violent world were never created.

The leaders of the sovereign states are prepared to discuss problems of boundaries and custom houses, the sharing of natural resources, and arms. But not a word

about science. Even the State Council considers only general declarations to be adequate: There will be money for research, it is not necessary to worry. But a statement on the establishment of a common basic research fund has already been made. And where is it?

The fortunes of science never became a topic of serious discussion in the parliament. How can one not worry, when there is nothing with which to pay the wage of scientific associates? And what is more, the wage itself is ridiculous. In the words of Academician G. Arbatov, the entire USSR Academy of Sciences is worth one aircraft carrier. There are institutes, the directors of which are literally forcing their wards to spend their main time seeking profitable foreign contracts. The best minds are leaving the country and are going off to cooperatives, where basic science, as a rule, does not interest anyone. And this squandering of talents will not be without a trace for the homeland. Vice President of the USSR Academy of Sciences Academician Ye. Velikhov reported that for next year the academy has not subscribed even to the most authoritative foreign scientific publications. There is no currency.

It is strange that very simple truths are so poorly grasped by politicians and the powers that be. Is it, for example, really not clear that the development of the basic sciences is a means of survival for the state? And, perhaps, the only sure one.

Everything has somehow been absurdly linked into one chain: poor education and its detachment from serious scientific research; science, which is like a lost soul and is lost among the sovereignties, the low prestige and level of knowledge in society. But, on the other hand, politicians are, after all, also from this society.

But then the Russian Academy (RAN) is still being organized. The decision on its establishment was made long before today's events. Yet they are changing the matter fundamentally. But no one believes that the RSFSR Supreme Soviet and the president of the republic can return to this important question once again and reconsider it under the new conditions, exclusively in the interests of Russia, the country, and science.

Although, being enthusiastic now about name changes, one must recall that the real and original name of the large academy is the Russian Academy. And there is nothing more natural than to return it.

It is this group of problems, reflections, and doubts that laid the groundwork of the discussion at the general meeting of the Academy of Sciences. The two sorest points were also indicated: the financing of basic science and the place of the Academy of Sciences in the new social structures. In essence, both reduce to one question: How under the conditions of the present economic and political disintegration of the Union is one to preserve something of permanent value—the intellectual potential of the state, which was formed over decades and even centuries?

Nearly all the speakers agreed that the division of the present Union into separate sovereign states is an experimental fact. But many expressed doubt: Is it worthwhile for scientists to participate in the chase of politicians? "It is not the business of the academy," Academician V. Ambartsumyan said, "to keep up with the upheavals of life. Basic science does not need to hurry. The trends of its division into parts are ill-timed. In politics it is possible that way, in science it is not. In this case I am for great caution."

For reasons, which have been repeatedly discussed in the press, but which it is already too late to eliminate—the train has left—the Russian Academy of Sciences is now being revived simultaneously at two "construction sites." Soon there is the election to the new Russian Academy of Sciences, and at the same time the presidium of the USSR Academy of Sciences is making the decision to return to the union academy its historical name—the Russian Academy. How is one to resolve this contradiction?

In the opinion of Academician Yu. Osipov, chairman of the organizing committee of the Russian Academy of Sciences, it is necessary to proceed here from the following premises. If there is a community of sovereign states, then sovereign Russia needs its own Academy of Sciences. Its opposition to the all-union Academy of Sciences is intolerable. The integration of the basic research of academic, sectorial, and VUZ science should distinguish the new Russian Academy.

After intense debates 162 participants in the general meeting (with 15 "nays" and 21 abstentions) voted for the proposal: to preserve the union of the USSR Academy of Sciences with the return to it of the name and status of the Russian Academy of Sciences. To retain for it the status of an independent self-governing organization that operates on the basis of the laws of the USSR and the Russian Federation and the charter of the academy. To ask the leadership of the USSR and the RSFSR to adopt the corresponding decision on these questions.

The maximum participation of the USSR Academy of Sciences in the election of the Russian Academy of Sciences, which is being held in accordance with a decision of the RSFSR Supreme Soviet, will be ensured. The integration of the members of the USSR Academy of Sciences with the initial membership of the Russian Academy of Sciences, which is being established in accordance with a decision of the RSFSR Supreme Soviet, in a unified Russian Academy of Sciences lies ahead. Its first general meeting, which will specify the organizational structure of the new Academy of Sciences, will elect its governing bodies, and will adopt the charter of the academy, is being held in December. The institutes of the USSR Academy of Sciences on the territory of Russia are being transferred to the united Russian Academy of Sciences. Here the new academy will also conduct research in the interests of the Union.

The general meeting of the USSR Academy of Sciences addressed to the leadership of the Russian Federation the request to attach to the unified Russian Academy of Sciences, its institutes, regional departments and centers, and presidium the rights to the property (buildings, parcels of land, major scientific instruments, ships, and so on) which is in its possession and use.

The scientists raised for the leaders of the Union, Russia, and the sovereign republics the question of the sources of financing of basic research in academic, sectorial, and VUZ science from union, interrepublic, and republic funds. The academy is undertaking to develop a system of the distribution of financial, material, and technical means (grants) from these funds among scientific organizations and creative collectives on a competitive basis.

The resolve, which was noted in the resolution of the general meeting, not to crawl off immediately into sovereign national quarters, but to preserve the Academy of Sciences of the Union as a community of full members of the academies of sciences of the USSR and the sovereign republics was reassuring. This will be an integrating structure without the present broad network of institutes (there are now 365 scientific institutions in the USSR Academy of Sciences), but, perhaps, with its own inter-republic research and information centers.

It is proposed to increase the social and material protection and independence of members of the united Russian Academy of Sciences and other personnel of its institutes, including the guarantee of the rights to intellectual property, contract hiring, and so on.

In November-December a conference of representatives of the labor collectives of academic institutes will discuss the concept of the main directions of the development of the scientific community. Subsequently it is proposed to hold a congress of scientists of the country.

Many questions remain following this, perhaps, last decision of the general meeting of the USSR Academy of Sciences (in any case in its present, traditional version). But, we believe, the scientific community itself will look into them and will find answers that are favorable both for itself and for all of us.

Official Announcements of Russian (RSFSR) Academy of Sciences

Organizing Committee Membership

927A0031A Moscow *POISK* in Russian No 33,
9-15 Aug 91 p 4

[Article by Academician Yu.S. Osipov, chairman of the Organizing Committee of the Russian Academy of Sciences and organizing president of the Russian Academy of Sciences, under the rubric "The Russian Academy of Sciences": "The Organizing Committee of the Russian Academy of Sciences Reports"]

[Text] The RSFSR Supreme Soviet at a session in June 1990 passed the USSR Law on the Establishment of the Russian Academy of Sciences (RAN) and commissioned the Committee for Science and Public Education and the Committee for Legislation of the RSFSR Council of Ministers with the participation of the scientific community to formulate the principles of the formation and activity of the Russian Academy of Sciences. The indicated principles were considered by a session of the RSFSR Supreme Soviet in February 1991.

In conformity with the decision of the session of the Presidium of the RSFSR Supreme Soviet the Organizing Committee for the Formulation of the Draft of the Charter and the Principles for the Formation of the Initial Staff of the Russian Academy of Sciences was formed by the decree of 25 March 1991: Academician of the USSR Academy of Sciences Yu.S. Osipov—chairman of the Organizing Committee, organizing president of the Russian Academy of Sciences (Sverdlovsk); Doctor of Chemical Sciences Prof. A.K. Mikitayev—deputy chairman of the Organizing Committee of the Russian Academy of Sciences, organizing vice president of the Russian Academy of Sciences, RSFSR people's deputy (Nalchik); Doctor of Physical Mathematical Sciences Prof. B.V. Alekseyev (Moscow); Doctor of Technical Sciences Prof. G.P. Anshakov (Samara); Doctor of Technical Sciences Prof. L.I. Volkov (Moscow); Doctor of Historical Sciences and Doctor of Philosophical Sciences Prof. D.A. Volkogonov, RSFSR people's deputy (Moscow); Academician of the USSR Academy of Sciences A.G. Granberg, RSFSR people's deputy (Novosibirsk); Doctor of Philosophical Sciences T.A. Guriyev (Vladikavkaz); Doctor of Physical Mathematical Sciences Prof. A.V. Deryagin, RSFSR people's deputy (Kaluga); Doctor of Technical Sciences Prof. Yu.V. Zaytsev, RSFSR people's deputy (Moscow); Corresponding Member of the USSR Academy of Sciences V.T. Kalinnikov (Apatity); Academician of the USSR Academy of Sciences G.B. Yelyakov (Vladivostok); Academician of the USSR Academy of Sciences V.A. Kop-tyug (Novosibirsk); Academician of the USSR Academy of Sciences N.N. Krasnovskiy (Sverdlovsk); Academician of the USSR Academy of Sciences N.P. Laverov (Moscow); Corresponding Member of the USSR Academy of Sciences V.P. Larionov, USSR people's deputy (Yakutsk); Academician of the USSR Academy of Sciences D.S. Likhachev, USSR people's deputy (Leningrad); Doctor of Chemical Sciences Prof. V.V. Lunin, RSFSR people's deputy (Moscow); Doctor of Technical Sciences Prof. N.G. Malyshev (Moscow); Corresponding Member of the USSR Academy of Sciences S.P. Merkuryev (Leningrad); Academician of the USSR Academy of Sciences G.A. Mesyats (Sverdlovsk); Doctor of Technical Sciences Prof. B.S. Mitin, USSR people's deputy (Moscow); Doctor of Technical Sciences Prof. Yu.N. Myasnikov (Leningrad); Doctor of Technical Sciences Prof. V.N. Nikolayev (Cheboksary); Doctor of Medical Sciences Prof. O.Ye. Nifantsev, RSFSR people's deputy (Krasnoyarsk); Doctor of Technical Sciences Prof. G.A. Popov (Moscow); Academician of the

USSR Academy of Sciences B.V. Raushenbakh (Dolgoprudnyy of Moscow Oblast); Doctor of Biological Sciences Prof. Ye.A. Stroyev, RSFSR people's deputy (Ryazan); Doctor of Philosophical Sciences Prof. B.T. Udodov (Voronezh); Corresponding Member of the USSR Academy of Sciences S.N. Khadzhiev (Moscow); Academician of the USSR Academy of Sciences Ye.P. Chelyshev (Moscow); Doctor of Technical Sciences Prof. V.P. Shorin, RSFSR people's deputy (Samara).

Meetings of the Organizing Committee of the Russian Academy of Sciences were held on 12 May, 23 May, 27 June, and 24 July 1991.

Sections of the Organizing Committee of the Russian Academy of Sciences for directions of the sciences were formed: the section of humanities and social sciences; the section of mathematics, mechanics, and information science; the section of physics, power engineering, and electronics; the section of chemical and biomedical sciences; the section of earth sciences; the section of engineering sciences. Regional organizing committees of the Russian Academy of Sciences were established in 11 economic regions of the RSFSR and in Moscow with Moscow Oblast.

The Statute on the Procedure of the Formation of the Initial Staff of the Russian Academy of Sciences was adopted. The draft of the temporary Charter of the Russian Academy of Sciences was drawn up and adopted. (It will be published in one of the next issues of POISK.)

The Organizing Committee of the Russian Academy of Sciences reports that the publication of all the materials of the Russian Academy of Sciences will be carried out in the weekly all-union newspaper POISK.

On questions, which are connected with the formation of the Russian Academy of Sciences, one should turn to the Executive Board of Directors for the Organization of the Russian Academy of Sciences, which was established by a decree of the RSFSR Council of Ministers (101485 Moscow, Seleznevskaya Ulitsa, 11a; telephone numbers 284-37-54, 284-37-52; the thoroughfare before the Novoslobodskaya and the Mendeleyevskaya metro stations), as well as to the regional organizing committees.

Statute on Formation of Initial Staff

927A0031B Moscow POISK in Russian No 33,
9-15 Aug 91 p 4

[Statute on the Procedure of the Formation of the Initial Staff of the Russian Academy of Sciences, adopted on 27 July 1991 at a meeting of the Organizing Committee for the Formulation of the Draft of the Charter and the Principles of the Formation of the Initial Staff of the Russian Academy of Sciences]

[Text] 1. This statute specifies the procedure of the formation of the initial staff of the Russian Academy of

Sciences (RAN) and is valid until the adoption by the general meeting of the academy of its permanent or temporary charter.

2. The formation of the initial staff of the Russian Academy of Sciences is accomplished by the holding of an election of the category of members of the academy—full members (academicians) of the Russian Academy of Sciences.

3. The organization of the election is assigned to the Organizing Committee for the Formulation of the Draft of the Charter and the Principles of the Formation of the Initial Staff of the Russian Academy of Sciences (the Organizing Committee of the Russian Academy of Sciences), which was formed by a decree of the Presidium of the RSFSR Supreme Soviet of 25 March 1991, as well as to the regional organizing committees.

4. Regional organizing committees are formed in the 11 economic regions of the RSFSR, which include the corresponding administrative territorial formations, as well as in Moscow and Moscow Oblast for the carrying out of preliminary work during the period prior to the holding of the first general meeting of the Russian Academy of Sciences.

5. The chairmen and cochairmen of the regional organizing committees are appointed by the Organizing Committee of the Russian Academy of Sciences.

Well-known scientists, who work in the corresponding regions, as well as representatives of organs of state power and government of the administrative territorial formations, which are a part of the regions, are included on the regional organizing committees, which are approved by the Organizing Committee of the Russian Academy of Sciences on the representation of the chairmen of these committees.

The representation of scientists of academic, VUZ, and sectorial science on the regional organizing committees is established with allowance made for the scientific potential that exists in each region.

6. The Organizing Committee of the Russian Academy of Sciences, on the basis of the priority directions of the development of science in the RSFSR, establishes the list of specialties, in which vacancies of full members (academicians) of the Russian Academy of Sciences are announced, the number of vacancies in these specialties, and the time of the conducting of the election.

The announcement of the Organizing Committee of the Russian Academy of Sciences on the election is published in the central press no less than two months prior to the conducting of the election.

7. Scientists, who work on the territory of the RSFSR, have the degree of doctor of sciences, and have made an outstanding contribution to the development of science, can be candidates for full members (academicians) of the Russian Academy of Sciences.

The right to nominate candidates for full members (academicians) of the Russian Academy of Sciences is granted to the Organizing Committee of the Russian Academy of Sciences, organs of state government of the RSFSR, public scientific organizations, which operate on the territory of the Russian Federation and have been registered in accordance with established procedure, scientific institutions and higher educational institutions, which are located on the territory of the RSFSR.

The nomination of candidates by state organs, public organizations, scientific institutions, and higher educational institutions is carried out at meetings of the collegiums, presidiums, academic councils, and scientific and technical councils by ballot (open or secret) by a simple majority of votes.

8. Figures of literature and art, who work on the territory of the RSFSR and have made by their creativity an outstanding contribution to the development of the spiritual wealth of Russia, can be nominated as candidates for full members (academicians) of the Russian Academy of Sciences.

The nomination of the indicated people is carried out by officially registered creative unions for the vacancies announced by the Organizing Committee of the Russian Academy of Sciences.

9. The names of the candidates for full members (academicians) of the Russian Academy of Sciences with the appropriate justification are reported in writing to the Organizing Committee of the Russian Academy of Sciences within one month from the day of publication of the announcement on the conducting of the election.

The names of the candidates for full members (academicians) of the Russian Academy of Sciences, who have been nominated and registered by the Organizing Committee of the Russian Academy of Sciences, are published in the central press no later than one month before the election. The election results are published in the central press.

10. The election of the initial staff of full members (academicians) of the Russian Academy of Sciences is conducted at the general meeting of the electors (founders) of the Russian Academy of Sciences.

11. Scientists, who work on the territory of the RSFSR and have the academic degree of doctor of sciences and universally recognized scientific services, can be electors (founders) of the Russian Academy of Sciences.

The members of the Organizing Committee of the Russian Academy of Sciences have the right at request to be included among the electors (founders) of the Russian Academy of Sciences.

The electors (founders) at the stage of the formation of the initial staff of the academy do not stand for election.

12. The size of the general meeting of electors (Founders) of the Russian Academy of Sciences is established by the

Organizing Committee of the Russian Academy of Sciences. The general meeting of electors (founders) has the following composition:

- 20 percent are full members of the USSR Academy of Sciences, who have been recommended by the corresponding departments of the USSR Academy of Sciences with allowance made for the announced vacancies;
- 70 percent are scientists, who work at the higher school and institutions of academic and sectorial science on the territory of the RSFSR, have been recommended by the regional organizing committees in accordance with the established quotas, and have been approved by the Organizing Committee of the Russian Academy of Sciences;
- 10 percent are scientists who have been invited to be among the electors (founders) by the Organizing Committee of the Russian Academy of Sciences at their own discretion.

Structurally the general meeting of electors (founders) consists of sections that unite scientists by directions of science.

The names of the electors (founders) of the Russian Academy of Sciences are published in the central press.

13. The election of full members (academicians) of the Russian Academy of Sciences is carried out at the general meeting of the electors (founders) of the Russian Academy of Sciences by secret ballot from among the candidates, who have been registered by the Organizing Committee of the Russian Academy of Sciences, have been discussed, and have been recommended for election by the sections of this meeting for directions of sciences.

The decision of the sections on the recommendation is considered made, provided not less than two-thirds of the electors (founders), who participated in the meeting of the sections, voted for it.

14. The people, who received the largest number of votes, but not less than two-thirds of the approved registered electors (founders) of the Russian Academy of Sciences, are considered to have been elected full members (academicians) of the Russian Academy of Sciences.

15. The certificate of the counting commission for the election of full members (academicians) of the Russian Academy of Sciences is approved at a general meeting of the electors (founders) of the Russian Academy of Sciences provided not less than two-thirds of the approved registered electors (founders) are present at the meeting.

16. The elected full members (academicians) of the Russian Academy of Sciences at their first general meeting elect the governing bodies of the Russian Academy of Sciences and adopt the permanent or temporary charter.

[Signed] Chairman of the Organizing Committee of the Russian Academy of Sciences and Organizing President of the Russian Academy of Sciences Yu. Osipov

Chairman of the Committee for Science and Public Education of the RSFSR Supreme Soviet V. Shorin

Regional Organizing Committees Listed

927A0031C Moscow POISK in Russian No 33,
9-15 Aug 91 pp 4-5

[Article: "The Regional Organizing Committees for the Formation of the Initial Staff of the Russian Academy of Sciences"]

[Text] 1. The Regional Organizing Committee for the Northern Economic Region (Arkhangelsk, Vologda, and Murmansk Oblasts, the Karelian ASSR, the Komi SSR).

Address: 184200, Apatity of Murmansk Oblast, Ulitsa Fersmana, 14, the Presidium of the Kola Scientific Center of the USSR Academy of Sciences; telephone number: 3-14-50.

Chairman—Corresponding Member of the USSR Academy of Sciences V.T. Kalinnikov, member of the Organizing Committee of the Russian Academy of Sciences (Apatity); cochairmen—Doctor of Chemical Sciences O.M. Sokolov (Arkhangelsk); Corresponding Member of the USSR Academy of Sciences N.P. Yushkin (Syktyvkar).

2. The Regional Organizing Committee for the Northwestern Economic Region (Kaliningrad, Leningrad, Novgorod, and Pskov Oblasts, the city of Leningrad).

Address: 199034, Leningrad, Universitetskaya naberezhnaya, 7/9, Leningrad State University; telephone number: 428-66-90.

Chairman—Corresponding Member of the USSR Academy of Sciences S.P. Merkuryev, member of the Organizing Committee of the Russian Academy of Sciences (Leningrad); cochairman—Academician of the USSR Academy of Sciences D.S. Likhachev, member of the Organizing Committee of the Russian Academy of Sciences (Leningrad); Doctor of Technical Sciences Prof. Yu.N. Myasnikov, member of the Organizing Committee of the Russian Academy of Sciences (Leningrad); Doctor of Technical Sciences Prof. O.A. Terentyev (Leningrad).

3. The Regional Organizing Committee for the Central Economic Region (Bryansk, Vladimir, Ivanovo, Kaluga, Kostroma, Orel, Tver, Ryazan, Smolensk, Tula, and Yaroslavl Oblasts).

Address: 300600, Tula, Prospekt Lenina, 92, Tula Polytechnical Institute; telephone number: 44-94-39.

Chairman—Corresponding Member of the USSR Academy of Sciences A.G. Shipunov (Tula); cochairmen—Doctor of Physical Mathematical Sciences Prof. A.V. Deryagin, member of the Organizing Committee of

the Russian Academy of Sciences (Kaluga); Doctor of Biological Sciences Prof. Ye.A. Stroyev, member of the Organizing Committee of the Russian Academy of Sciences (Ryazan).

4. The Regional Organizing Committee for the City of Moscow and Moscow Oblast.

Address: 103767, Moscow, Ulitsa Petrovka, 27, the Moscow Aviation Technology Institute; telephone numbers: 221-20-17, 939-12-90.

Chairman—Academician of the USSR Academy of Sciences V.P. Maslov; cochairs—Doctor of Physical Mathematical Sciences Prof. B.V. Alekseyev, member of the Organizing Committee of the Russian Academy of Sciences; Doctor of Technical Sciences Prof. L.I. Volkov, member of the Organizing Committee of the Russian Academy of Sciences; Doctor of Physical Mathematical Sciences O.I. Yakovlev.

5. The Regional Organizing Committee for the Volga-Vyatka Economic Region (Nizhegorod and Kirov Oblasts, the Mari SSR, the Mordovian SSR, the Chuvash SSR).

Address: 603600, Nizhniy Novgorod, Ulitsa Ulyanova, 46, the Institute of Applied Physics of the USSR Academy of Sciences; telephone number: 36-35-19.

Chairman—Corresponding Member of the USSR Academy of Sciences V.V. Zheleznyakov (Nizhniy Novgorod); cochairs—Doctor of Technical Sciences Prof. V.N. Nikolayev, member of the Organizing Committee of the Russian Academy of Sciences (Cheboksary); Doctor of Physical Mathematical Sciences Prof. A.F. Khokhlov (Nizhniy Novgorod).

6. The Regional Organizing Committee for the Central Chernozem Economic Region (Belgorod, Voronezh, Kursk, Lipetsk, and Tambov Oblasts).

Address: 394693, Voronezh, Universitetskaya ploshchad, 1, Voronezh State University; telephone number: 56-67-37

Chairman—Corresponding Member of the USSR Academy of Sciences A.D. Konoparov (Voronezh); cochairs—Doctor of Physical Mathematical Sciences Prof. I.I. Miroshnichenko (Belgorod); Doctor of Philosophical Sciences Prof. B.T. Udodov, member of the Organizing Committee of the Russian Academy of Sciences (Voronezh).

7. The Regional Organizing Committee for the Volga River Economic Region (Astrakhan, Volgograd, Penza, Samara, Saratov, and Ulyanovsk Oblasts, the Kalmyk SSR, the Tatar SSR).

Address: 443001, Samara, Ulitsa Molodogvardeyskaya, 151, the Nauka Scientific and Technical Center; telephone number: 32-08-56.

Chairman: Doctor of Technical Sciences Prof. G.P. Anshakov, member of the Organizing Committee of the Russian Academy of Sciences (Samara); cochairs—Doctor of Technical Sciences Prof. Ye.A. Lomtev (Penza); Doctor of Technical Sciences Prof. A.F. Rezhnikov (Saratov).

8. The Regional Organizing Committee for the Northern Caucasian Economic Region (Krasnodar and Stavropol Krays, Rostov Oblast, the Dagestan SSR, the Kabardino-Balkar SSR, the North Ossetian SSR, the Chechen-Ingush Republic).

Address: 344700, Rostov-on-Don, Ulitsa Pushkinskaya, 140, the Northern Caucasian Scientific Center of the Higher Schools; telephone number: 53-64-66.

Chairman—Corresponding Member of the USSR Academy of Sciences Yu.A. Zhdanov (Rostov-on-Don); cochairs—Corresponding Member of the USSR Academy of Sciences V.A. Babeshko (Krasnodar); Doctor of Philosophical Sciences Prof. T.A. Guriyev, member of the Organizing Committee of the Russian Academy of Sciences (Vladikavkaz).

9. The Regional Organizing Committee for the Ural Economic Region (Kurgan, Orenburg, Perm, Sverdlovsk, and Chelyabinsk Oblasts, the Bashkir SSR, the Udmurt Republic).

Address: 620219, Sverdlovsk, GSP-169, Ulitsa Pervomayskaya, 91, the Presidium of the Ural Department of the USSR Academy of Sciences; telephone number: 44-02-13.

Chairman—Corresponding Member of the USSR Academy of Sciences O.N. Chupakhin (Sverdlovsk); cochairs—Doctor of Economic Sciences A.M. Ilyshev (Sverdlovsk); Doctor of Technical Sciences Prof. R.R. Mavlyutov (Ufa).

10. The Regional Organizing Committee for the West Siberian Economic Region (Altay Kray, Kemerovo, Novosibirsk, Omsk, Tomsk, and Tyumen Oblasts).

Address: 630090, Novosibirsk, Ulitsa Pirogova, 2, Novosibirsk State University; telephone number: 35-52-37.

Chairman—Corresponding Member of the USSR Academy of Sciences Yu.L. Yershov (Novosibirsk); cochairs—Doctor of Physical Mathematical Sciences Prof. Yu.S. Makushkin (Tomsk); Doctor of Physical Mathematical Sciences Prof. V.V. Tikhomirov (Omsk).

11. The Regional Organizing Committee for the East Siberian Economic Region (Krasnoyarsk Kray, Irkutsk and Chita Oblasts, the Buryat SSR, the Soviet Republic of Tuva, the Yakutsk-Sakha SSR).

Address: 660062, Krasnoyarsk, Svobodnyy Prospekt, 79, Krasnoyarsk State University; telephone number: 45-64-00.

Chairman—Corresponding Member of the USSR Academy of Sciences V.P. Larionov, member of the Organizing Committee of the Russian Academy of Sciences (Yakutsk); cochairs—Doctor of Geological Mineralogical Sciences A.S. Baryshev (Irkutsk); Doctor of Physical Mathematical Sciences Prof. N.D. Podufalov (Krasnoyarsk).

12. The Regional Organizing Committee for the Far Eastern Economic Region (Maritime and Khabarovsk Krays, Amur, Kamchatka, Magadan, and Sakhalin Oblasts).

Address: 690032, Vladivostok, Ulitsa Radio, 5, the Institute of Automation and Control Processes of the Far Eastern Department of the USSR Academy of Sciences; telephone number: 26-15-23.

Chairman—Corresponding Member of the USSR Academy of Sciences V.P. Myasnikov (Vladivostok); cochairs—Corresponding Member of the USSR Academy of Sciences Ch.B. Borukayev (Khabarovsk); Doctor of Technical Sciences Prof. N.G. Khrapatyy (Vladivostok).

Draft Statute on USSR Academy of Sciences Department

927A0032A Moscow POISK in Russian No 25,
14-20 Jun 91 pp 4-5

[Draft of the Statute on the Department of the USSR Academy of Sciences—first two paragraphs are POISK introduction]

[Text] The Commission for Legal Questions of the Regulation of Scientific Activity, which was set up in accordance with a decree of the presidium of the USSR Academy of Sciences in September of last year, under the direction of Vice President of the USSR Academy of Sciences Academician V. Kudryavtsev has considered the draft of the document, the Statute on the Department of the USSR Academy of Sciences. The authors of the draft—V. Andreyev, A. Zakharov, S. Ioffe, A. Kocharov, V. Kudryavtsev, Ye. Mukhin, V. Pavlov, L. Petrenko, L. Sergiyenko, V. Tishkov, and I. Khamanov—tried to maintain it in the spirit of the overall process that is aimed at the democratization of academic life as a whole. The efforts of the commission members, who represent the scientific community at large, institutes, departments, and the presidium of the USSR Academy of Sciences, were aimed precisely at this.

The draft of the document—the Statute on the Department of the USSR Academy of Sciences—which is being called to the attention of the readers, has gone through the “first reading” by the commission members, who would be very grateful to all interested colleagues for remarks, suggestions, changes, and additions that are addressed to the commission. (Moscow, Leninskiy Prospekt, 14. The Commission for Legal Questions of the Regulation of Scientific Activity.)

I. General Provisions

1. This Statute¹ specifies the functions, rights, and duties of the departments of the USSR Academy of Sciences in the corresponding areas and directions of science. The regional departments operate on the basis of their own charters, which are approved by the general assembly of the USSR Academy of Sciences.

The members of the USSR Academy of Sciences, who are united by the regional departments, at the same time are members of the departments in their specialty.

2. The department of the USSR Academy of Sciences is a scientific and scientific organizational center, which unites in the Academy of Sciences scientists of one or several fields of science. The departments have within them institutes and other institutions.

3. The department of the USSR Academy of Sciences promotes the development of basic research in the corresponding area of science and specifies the general directions of the activity of the scientific institutions of the department. The department reports back on its work to the general assembly of the USSR Academy of Sciences and the presidium of the USSR Academy of Sciences.

4. The most important tasks of the department are: the analysis of the state and the trends of development of domestic and world science, the organization and the support of the conducting at scientific institutions of the department of research, which is of vital importance for scientific and technical progress and the socioeconomic and spiritual development of society; the monitoring of the implementation of the results of scientific research; the coordination of basic research in the corresponding areas of the natural and social sciences in the country; the promotion of international scientific cooperation in the specialization of the department and the evaluation of its effectiveness.

5. For the fulfillment of its tasks the department:

identifies and develops new, priority directions of basic research, organizes scientific research in these directions, and provides it with the necessary resources;

considers and decides questions of the change of the specialization of scientific institutions and the directions of their work; makes suggestions on the organization of new scientific institutions and the reorganization or elimination of existing ones;

promotes the use of the results of completed scientific research, as well as the popularization and dissemination of scientific knowledge;

carries out the coordination of the basic and integrated research in the specialization of the department and on intersectoral problems, which is being conducted at institutions of the regional departments, scientific centers, and affiliates of the USSR Academy of Sciences and the academies of sciences of the union republics within

the framework of the corresponding agreements, as well as at higher educational institutions and scientific institutions of other ministries and departments, and gives them scientific methods assistance;

makes suggestions on the organization of temporary scientific collectives for important scientific problems with the participation of scientists of various departments of the USSR Academy of Sciences, the republic and sectorial academies, and higher educational institutions and specialists of ministries and departments and establishes temporary interinstitute scientific collectives;

coordinates the activity of scientific councils, commissions and national committees, societies, and associations in the specialization of the department;

organizes expert commissions under the department for the awarding of gold medals and prizes named after prominent scientists, conducts a discussion of the results of their work, and submits to the presidium of the USSR Academy of Sciences suggestions on the awarding of the gold medals and prizes;

carries out the general supervision of publishing activity in the specialization of the department; acts as the founder of journals and other publications of the department;

contributes to the information support of the scientific activity of the institutions of the department.

6. It supervises the personnel support and resource supply of the activity of scientific institutions;

it performs work, which is connected with the preparation for elections to the USSR Academy of Sciences, and prepares suggestions on the opening of new vacancies;

it approves the composition of the scientific councils of scientific institutions and makes suggestions on the composition of specialized councils of the Higher Certification Commission;

it examines the suggestions of the scientific institutions of the department on the plans of financing and distributes among them the total amounts of outlays on scientific research work, including currency allocations;

it organizes the competition of scientific projects and grants, ensures their financing, and monitors fulfillment. If necessary, it turns to the Basic Research Fund and other sources of financing for the support of urgent scientific research and development;

on the basis of the proposals of institutes it determines the needs for the most important material and technical resources and distributes them among the scientific institutions;

it considers the suggestions of scientific institutions on questions of capital construction and submits them to the presidium of the USSR Academy of Sciences;

it pays bonuses to the executives of the scientific institutions, which belong to the department, for the successful solution of scientific problems and the implementation of scientific achievements.

The General Assembly of the Department

7. The general assembly of the department is the highest organ of the department of the USSR Academy of Sciences. It consists of the full members and corresponding members of the Academy for this department, as well as doctors and candidates of sciences, who have been delegated to it for a term of up to two years by the scientific institutions of the department. The delegated members of the department are elected by a general meeting (conference) of the scientific associates (delegates). The standard of representation from specific scientific institutions is established by a decision of the bureau (presidium) of the corresponding department in proportion to the number of scientific associates. The total number of delegated members of the department should not be more than the number of full members and corresponding members of the USSR Academy of Sciences.

8. The general assembly of the department:

8.1. specifies the basic directions and settles fundamental questions of the development of the corresponding area of science;

8.2. specifies the tasks and basic directions of coordinating activity in the specialization of the department, including institutions of the USSR Academy of Sciences and the academies of sciences of the union republics within the framework of the corresponding agreements, sectorial institutes, and higher educational institutions of the country;

8.3. discusses the basic directions of international scientific cooperation;

8.4. hears and approves the report on the work of the department;

8.5. elects the bureau of the department: the academician secretary, the deputy academician secretaries, and the members of the bureau; the deputy academician secretary for scientific organizational questions and the scientific secretary of the department are elected on the representation of the academician secretary;

8.6. elects candidates for full members and corresponding members of the USSR Academy of Sciences;

8.7. at the request of full members and corresponding members of the USSR Academy of Sciences admits them to membership in its department on the condition of the consent of the general assembly of the department, in which they are members;

8.8. nominates candidates for foreign members of the USSR Academy of Sciences;

8.9. elects the directors of institutes for the areas of the sciences, which have been assigned to the jurisdiction of the department, with their subsequent submission for the approval of the presidium of the USSR Academy of Sciences;

8.10. periodically hears the reports of full members and corresponding members of the USSR Academy of Sciences, who belong to the department, on the scientific and scientific organizational work;

8.11. approves the statutes on expert councils and their personnel.

The general assembly of the department can also consider other questions that have been assigned to the jurisdiction of the department.

9. The full members and corresponding members of the USSR Academy of Sciences have the right to vote in the general assembly of the department, to which they belong.

The delegated members of the department have the right to vote with respect to all points, except points 8.6, 8.7, and 8.8 of this Statute, with respect to which they have the right to advise without voting.

The full members and corresponding members of the USSR Academy of Sciences, who belong simultaneously to two or more departments, in case of elections to the USSR Academy of Sciences have the right to vote only in one department.

The full members and corresponding members of the USSR Academy of Sciences, regardless of what department they belong to, can participate in the work of the general assembly of the department and have the right to vote on scientific questions that have a direct bearing on their scientific specialty.

The full members of the academies of sciences of the union republics and the directors of the institutes of the USSR Academy of Sciences, if they are not full members or corresponding members of the USSR Academy of Sciences, take part in the general assembly of the corresponding department with the right to advise without voting.

10. The general assembly of the department conducts the elections of candidates for full members and corresponding members of the USSR Academy of Sciences and the nomination of candidates for foreign members of the USSR Academy of Sciences in conformity with the charter of the USSR Academy of Sciences, the Statute on Elections to the USSR Academy of Sciences, and this Statute.

11. The general assembly of the department is authorized to make decisions, provided a simple majority of the members of the department are present at the meeting.

The presence of not less than two-thirds of the registered staff of the department is necessary for the election of the director of an institute. The candidate, who received the largest number of votes, but not less than half of the votes of those present, is considered elected.

The presence of not less than two-thirds of the registered staff of full members and corresponding members of the USSR Academy of Sciences of the department is required for the adoption of a decision on the awarding of the academic decree of doctor Honoris Causa without the defense of a dissertation. The decision is considered adopted, provided it received not less than two-thirds of the people, who are present at the meeting and have the right to vote.

Note. The members of the department, who during the holding of the general assembly of the department are on a foreign business trip, are not included in the registered staff when determining the quorum and when taking a vote. In exceptional cases by a special decision of the presidium of the USSR Academy of Sciences full members and corresponding members of the USSR Academy of Sciences, whose state of health excludes the possibility of their participation in meetings and in voting, might not be included in the registered staff.

12. Decisions at the general assembly of the department are adopted by an open ballot, with the exception of the following questions:

12.1. the election of the academician secretary, his deputies, and the members of the bureau of the department;

12.2. the election of candidates for full members and corresponding members of the USSR Academy of Sciences;

12.3. the transfer of members of the USSR Academy of Sciences from other departments to membership in its own department;

12.4. the election of directors of scientific institutions;

12.5. the awarding for scientific services of the academic degree of doctor Honoris Causa without the defense of a dissertation.

The general assembly of the department can by a simple majority of votes of the members of the department, who have the right to vote on the question being discussed, make the decision on the conducting of a secret ballot on any question that is within the competence of the general assembly of the department.

13. The decisions of the general assembly of the department are adopted by a simple majority of votes of those who are present and have the right to vote, with the exception of cases, when, in accordance with the charter of the USSR Academy of Sciences and this Statute, a majority of not less the two-thirds of the votes is required for the adoption of the decision.

14. The general assembly of the department is convened by the bureau of the department as needed, but not less often than twice a year. The academician secretary is the chairman of the general assembly of the department, the scientific secretary of the department is its secretary.

III. The Bureau of the Department

15. The bureau of the department, which is headed by the academician secretary of the department, supervises the work of the department during the period between sessions of the general assembly of the department.

The academician secretary of the department is elected by the general assembly of the department by secret ballot from among the full members of the USSR Academy of Sciences for five years and is approved by the general assembly of the USSR Academy of Sciences.

The deputy academician secretaries and the members of the bureau are elected by the general assembly of the department simultaneously from among the members of the department, who are academicians and corresponding members of the USSR Academy of Sciences, by secret ballot for five years and are approved by the presidium of the USSR Academy of Sciences.

The deputy academician secretary for scientific organizational questions is elected from among the members of the USSR Academy of Sciences or the doctors of sciences and has the rights of a member of the bureau of the department.

The scientific secretary of the department is elected from among the doctors or candidates of sciences and has the rights of a member of the bureau of the department.

In case of elections the principle of the systematic replacement and continuity of the leadership is observed.

Other members of the given department, as well as the directors of the scientific institutions belonging to the department, who are not members of the USSR Academy of Sciences, can take part in the work of the bureau of the department with the right to advise without voting. The academician secretaries of the corresponding departments of the academies of sciences of the union republics for questions, which are connected with the activity of the academies they represent, can participate in the work of the bureau of the department with the right to advise without voting.

16. The bureau of the department:

16.1. convenes the general assembly of the department;

16.2. organizes the preparation for the consideration at the general assembly of the department of scientific and scientific organizational questions that have been assigned to the jurisdiction of the department; ensures the fulfillment of the decisions of the general assembly of the department;

16.3. approves the coordinating plans of scientific research on questions, which belong to the jurisdiction of the department, and carries out the monitoring of their fulfillment; organizes through scientific councils for problems and institutes coordinating activity in the corresponding area of science, including institutions of the academies of sciences of the union republics and VUZ and sectorial science;

16.4. specifies the themes of priority research on urgent problems; holds competitions of projects of such research and scientific developments; makes decisions on the implementation of the accepted projects and provides them with financial and other resources; gives incentives to the winners of the competitions;

16.5. approves the comprehensive programs of scientific research work in the specialization of the department and monitors their fulfillment; approves the directors and the composition of the temporary interinstitute scientific collectives for the implementation of new directions of research and comprehensive goal programs; makes suggestions on the participation of scientists of the department and other specialists in temporary scientific collectives, which are organized by the presidium of the USSR Academy of Sciences; discusses the results of completed research for the purpose of their introduction in practice;

16.6. convenes conferences and meetings and organizes debates for the discussion of scientific problems and the coordination of research which is being conducted by scientific institutions of various scientific specializations;

16.7. examines the reports of the institutions of the department on scientific activity and the implementation of the results of completed research in practice and the reports on the basic research of institutes, the methods supervision of which should be assigned to the department; examines the annual reports of the academicians and corresponding members of the USSR Academy of Sciences of the given department on the scientific work done by them;

16.8. makes a periodic comprehensive check and evaluation of the activity of institutes; considers questions of the organization of new scientific institutions of the USSR Academy of Sciences and the reorganization of existing ones; submits the corresponding suggestions to the presidium of the USSR Academy of Sciences;

16.9. approves the composition of the scientific councils of institutes and the scientific councils for problems, committees, and commissions, which belong to the department; approves the composition of the editorial boards of scientific journals of the department; submits the editors in chief of scientific journals for approval to the presidium of the USSR Academy of Sciences;

16.10. pays bonuses to the managerial personnel of the scientific institutions, which belong to the department,

for the successful solution of scientific problems and the implementation of scientific achievements;

16.11. considers the questions of the organization and composition of specialized councils attached to institutions of the department and submits suggestions to the Higher Certification Commission;

16.12. approves the composition of the expert commissions of the department and makes decisions in accordance with their recommendations on the awarding of gold medals and prizes named after prominent scientists and submits its suggestions to the presidium of the USSR Academy of Sciences;

16.13. distributes among the institutions the currency assets and quotas for scientific instruments and foreign literature, which have been allotted the department; considers suggestions on the election of foreign scientists as foreign members of the USSR Academy of Sciences;

16.14. approves the distribution among scientific institutions of the total amounts of allocations for scientific research work; carries out the distribution of additional special-purpose financing among the institutions of the department for the conducting of integrated and priority scientific research work;

16.15. recommends scientists in the specialization of the department for inclusion in various organs and organizations of the USSR Academy of Sciences and other agencies (the scientific publishing council, national committees, and so on);

16.16. on the basis of suggestions of the institutes specifies the specialties for admission to graduate studies for scientific institutions and distributes the vacancies;

16.17. distributes the annual limit of the number of sheets of scientific publications of the USSR Academy of Sciences among scientific institutions;

16.18. determines the needs of scientific institutions for the most important material and technical resources, including computer hardware and automation equipment, which are necessary for scientific research, distributes them among the scientific institutions within the allocated limit, and monitors their use;

16.19. in consultation with the bureaus of other departments conducts together meetings of the bureaus of the departments and joint sessions of the general assemblies of the departments for the discussion of questions that concern these departments;

16.20. examines the suggestions of scientific institutions on questions of capital construction and in accordance with established procedure submits them to the presidium of the USSR Academy of Sciences;

16.21. approves the structure and the manning table of the staff of the department within the limits of the wage fund, which has been allocated to the department by the presidium of the USSR Academy of Sciences.

17. The bureau of the department is authorized to make decisions, provided not less than half of the membership of the bureau is present at the meeting.

Decisions are adopted by a simple majority of votes by open ballot, if the bureau does not make a decision on the conducting of a secret ballot.

The decision of the bureau of the department on questions of the nomination of candidates for the awarding of gold medals and prizes named after prominent scientists is made by secret ballot.

18. The bureau of the department annually reports back on its work to the general assembly.

19. Administrative meetings of the bureau of the department consisting of the academician secretary of the department, the deputy academician secretaries, the scientific secretary of the department, and those members of the bureau of the department, who are in charge of the questions being examined by way of the distribution of duties among the members of the bureau, are held for the consideration and settlement of current questions of the activity of the department.

IV. The Academician Secretary of the Department

20. The academician secretary of the department:

20.1. organizes and directs the work of the department and its bureau; chairs the meetings of the general assembly and the bureau of the department; distributes duties among the deputy academician secretaries;

20.2. organizes and monitors the fulfillment by the department of decisions of the governing bodies of the USSR Academy of Sciences;

20.3. is the speaker at the meetings of the presidium of the USSR Academy of Sciences on questions that have been assigned to the jurisdiction of the department; participates in the distribution by the presidium of the USSR Academy of Sciences of the vacancies of full members and corresponding members of the USSR Academy of Sciences among the departments;

20.4. participates in the distribution by the presidium of the USSR Academy of Sciences of financial and the most important material resources among the departments and in the coordination of the drafts of the consolidated plans of the USSR Academy of Sciences on these questions and is the manager of the credits that have allocated to the department;

20.5. participates in the discussion and stamps the drafts of administrative documents of the presidium of the USSR Academy of Sciences, which affect the competence of the department;

20.6. examines the statements and complaints on the results of the certification of associates of the institutions of the department and the holding of competitions for

the filling of vacant positions of scientific personnel and makes decisions regarding them;

20.7. makes decisions regarding other questions, which have been assigned to the jurisdiction of the department, provided they are not within the competence of the general assembly and the bureau of the department.

21. The academician secretary bears responsibility for the activity of the bureau of the department before the general assembly of the department and the presidium of the USSR Academy of Sciences.

V. The Deputy Academician Secretaries

22. The deputy academician secretaries bear responsibility for the organization and direction of the work of the department in accordance with the established distribution of duties.

23. In case of the absence of the academician secretary one of the deputy academician secretaries, who have been elected to the bureau of the department, on his instructions performs his duties.

24. The deputy academician secretary for scientific organizational questions:

24.1. organizes and monitors the fulfillment of the decisions of the general assembly of the department;

24.2. ensures the preparation and fulfillment of decisions of the bureau of the department regarding questions of the coordination of scientific research activity, the introduction of research results, international scientific cooperation, financial activity, material and technical supply, and capital construction;

24.3. supervises the work of the staff of the department and distributes functional duties among its associates; monitors the observance of the requirements regarding labor safety procedures and labor safety practices;

24.4. fulfills assignments of the academician secretary on questions of the scientific and scientific organizational activity of the department.

VI. The Scientific Secretary of the Department

25. The scientific secretary of the department:

is the assistant of the academician secretary and his deputies for questions of the organization of the work of the department;

ensures the preparation of documents and other materials on questions of the organization of interinstitute comprehensive programs, competitions of designs and developments, the holding of all-union and international conferences, and publishing activity;

carries out the organizational and technical preparation of general assemblies and meetings of the bureau of the department.

VII. The Concluding Provisions

26. The department has a staff, which is formed and operates in accordance with the statute on it, which is approved by the bureau of the department.

On questions of the formation and the organization of the work of the staff of the department the academician secretary or his deputy for scientific organizational work issues orders.

27. The department enjoys the rights of a legal entity and has an account at the bank.

28. The department has a corner stamp and a seal with a picture of the USSR State Emblem with the indication of its name.

Footnote

1. Hereinafter called the "Statute."

Technical Schools Unfunded for 1991/1992 School Year

927A0025A Moscow POISK in Russian No 27,
28 Jun-4 Jul 91 p 2

[Article]

[Text] The Collegium of the RSFSR State Committee for Science and Higher Education considered in the first reading the draft of a decree on the secondary specialized school, which was prepared in the state committee on the instructions of the RSFSR Council of Ministers. The working title of the document is "On the Functioning and the Improvement of the Management of the Secondary Specialized School in the RSFSR." The goal is the establishment of a base for the reform of the collapsing system during 1991-1995, "on the basis of the principle of a unified multilevel system of training."

It was decided to complete the draft and then to submit it to the government of the republic. While for the time being the RSFSR State Committee for Science and the Higher School reports:

- in connection with the elimination of ministries and departments 270 tekhnikums of 16 sectors did not receive from the state budget assets for the training of students of the 1991/92 school year enrollment;
- secondary specialized educational institutions are experiencing serious difficulties with textbooks—up to 70 percent of the textbooks and educational aids in special subjects do not conform to the syllabuses;
- the existing wage system does not stimulate the scientific and professional advancement of instructors;
- in the USSR there is one technician per engineer, in the United States there are from three to six, while the optimum ratio, in the opinion of American specialists, is one to seven;
- in individual sectors up to 50 percent of the graduates of tekhnikums are assigned to positions that do not require the acquired specialty and skills.

Private Organizations Subsidize Academy of Sciences Youth Groups

927A0025B Moscow POISK in Russian No 27,
28 Jun-4 Jul 91 p 2

[Article]

[Text] In 1990 the financial assistance of academic youth on the part of the Nauka Voluntary Society was comparable to the budget "injections" through the Academy of Sciences. Under the conditions of a shortage of budget allocations at the USSR Academy of Sciences this cost accounting public organization jointly with the Nauka i molodezh Fund carried out the direct special-purpose financing of the scientific activity of young scientists at institutes of the USSR Academy of Sciences. About 1 million rubles were attracted through outside organizations, ministries, and departments. More than 30 cost accounting subdivisions of the Nauka Voluntary Society, which are conducting independent economic activity, have been organized at academic institutes.

Commission Formed To Study 'Commercialization' of USSR AS

927A0025C Moscow POISK in Russian No 25,
14-20 Jun 91 p 2

[Article—first paragraph is POISK introduction]

[Text] President of the USSR Academy of Sciences Guriy Marchuk has issued the order "On the Organization of the Commission of the USSR Academy of Sciences for the Preparation of the Question of the Problems of the 'Commercialization' of Science in the System of the USSR Academy of Sciences."

In the document it is noted that "in recent times the conducting of much...applied development has been carried out to a greater and greater degree with the active participation of specialists of the USSR Academy of Sciences." Further: "in a large number of specific cases such a practice is justified...." But... "the process is being accompanied by the more and more appreciable diversion of a portion of the scientific personnel and other personnel...from the direct conducting of scientific research." And also: "the use of resources of the USSR Academy of Sciences...for the performance of outside jobs without the corresponding reimbursement of outlays...is being observed."

The commission under the direction of Academician A. Sheyndlin was ordered to prepare within two months "its own conclusion and suggestions."

USSR AS Presidium Announces Organizational Changes

927A0026A Moscow POISK in Russian No 29,
12-18 Jul 91 p 2

[Article: "In the Presidium of the USSR Academy of Sciences"]

[Text] The Presidium of the USSR Academy of Sciences resolved:

to transform Leningrad affiliates of head institutes of the USSR Academy of Sciences into independent institutes of the USSR Academy of Sciences within the Leningrad Scientific Center of the USSR Academy of Sciences:

- the affiliate of the Institute of Machine Science imeni A. Blagonravov into the Institute of Problems of Machine Science;
- the branch of the Institute of Archeology into the Institute of History of Material Culture;
- the branch of the Institute of Linguistics into the Institute of Linguistic Research;

to transform the Leningrad subdivisions of a number of head institutes of the USSR Academy of Sciences into affiliates of these institutes with the rights of a legal entity within the Leningrad Scientific Center of the USSR Academy of Sciences:

- the branch of the Institute of Terrestrial Magnetism, Ionosphere, and Radio Wave Propagation into an affiliate of the Institute of Terrestrial Magnetism, Ionosphere, and Radio Wave Propagation;
- the scientific methods affiliate (with the rights of a department) of the Special Astrophysical Observatory into an affiliate of the Special Astrophysical Observatory;
- the department of the Institute of Oceanology imeni P. Shirshov into an affiliate of the Institute of Oceanology imeni P. Shirshov;
- the branch of the Institute of History of the USSR into an affiliate of the Institute of History of the USSR;
- a part of the Institute of Ethnology and Anthropology imeni N. Miklukho-Maklay into an affiliate of the Institute of Ethnology and Anthropology imeni N. Miklukho-Maklay;

—the branch of the Archive of the USSR Academy of Sciences into an affiliate of the Archive of the USSR Academy of Sciences;

—the department of the Institute of History of Natural Science and Technology imeni S. Vavilov into an affiliate of the Institute of History of Natural Science and Technology imeni S. Vavilov;

—the branch of the Institute of Oriental Studies into an affiliate of the Institute of Oriental Studies.

Average Age of Science Institute Directors Declines

927A0026B Moscow POISK in Russian No 27,
28 Jun-4 Jul 91 p 2

[Article]

[Text] The average age of directors of academic institutes decreased from 63 in 1987 to 56.5 at the end of 1990. During this period elections of directors were held at 207 institutes of the Academy. In the new corps of directors there are 51 academicians, 61 corresponding members of the USSR Academy of Sciences, and 87 doctors of sciences.

Prerevolution Scientists Earnings Noted

927A0026C Moscow POISK in Russian No 33,
9-15 Aug 91 p 2

[Article]

[Text] On the question of wages. In 1912 an academician of the Russian Academy had an annual income of 5,100 rubles [R] (a salary of R1,800, a dinner allowance of R1,800, R900 for housing, and R600 for the title). Ministers of the tsarist government earned on the average R6,100-6,600 a year. It is well known that the prices at those times were low (a liter of milk—14 kopecks, a pound of butter—53 kopecks, a pound of beef—23 kopecks, and so on), while rubles were accepted for payment in all civilized and uncivilized countries.

In passing: The Central Commission for the Support of the Daily Life of Scientists in the early 1920's established five categories of scientific personnel. In the words of historians, "namely members of the academy were supplied best of all."

Until 1957 the president of the USSR Academy of Sciences earned 30,000 "old" rubles.

Moscow Physical Technical Institute Confronts Funding, Policy Changes

927A0011A Moscow RADIKAL in Russian No 36,
18 Sep 91 p 7

[Interview with Nikolay Vasilyevich Karlov, rector of the Moscow Physical Technical Institute and USSR people's deputy, by Inga Aglitskaya under the rubric "Quo Vadis"; date and place not given: "Nikolay Karlov: 'There Should Be Elite Higher Educational Institutions. There Should Be Elite Training'"—first paragraph is RADIKAL introduction]

[Text] Inga Aglitskaya talks with the rector of the Moscow Physical Technical Institute and USSR people's deputy.

[Aglitskaya] Nikolay Vasilyevich, now, when following the August victory of democracy the well-founded hopes that everything will take its places in conformity with common sense have finally appeared, which of their hopes do the higher school and, in particular, the Moscow Physical Technical Institute intend to realize first of all.

[Karlov] The Moscow Physical Technical Institute is all the same an exceptional higher educational institution with respect to its capabilities and with respect to the position that it holds in the system of higher education. Therefore, it is easy for us to do many things. But I should say that the union, state leadership, which existed prior to 19 August, was unable to fathom in earnest the problems of the higher school. Yagodin and his committee tried to do everything they could and fought with great effort for the appropriate place of education in the country, in its budget, in the overall situation.... And they got nowhere. At the same time I am convinced that such centers of the higher school as the Physical Technical Institute, Moscow University, Leningrad (now St. Petersburg) and Novosibirsk universities should receive special attention of both the state and society. This was difficult for the committee, because it should have taken care of all 800 or 900 higher educational institutions of the country and could not give prominence to anyone. State structures of administration, which are external with respect to the committee, should have done this. But I have already said—with the union structures nothing worked out. The Russian leadership took a completely different approach. Although there were very great difficulties there, we succeeded, first, in getting a decree of the government of the Russian Federation, which gives the Physical Technical Institute a large number of exclusive rights....

[Aglitskaya] For example.

[Karlov] For example, a design ratio of 1:3, that is, one instructor per three students. This is both correct and important. Moreover, in the middle of the summer I had a meeting with President Yeltsin, who displayed an understanding of what the Physical Technical Institute is and began immediately to help us constructively.

It is difficult to speak "for all of Odessa," although I have repeatedly come forth with general views and specific suggestions with regard to the entire system of the higher school in the country. At the same time I believe that, in spite of the need for overall development, features, into which it is necessary to look very carefully, do exist. Here I find myself in a slightly awkward position, because I have fought and will fight, while I have the strength, to see to it that such higher educational institutions as the Physical Technical Institute or the Moscow Engineering Physics Institute would advance and would stand out distinctly. This is necessary. There should be elite higher educational institutions, there should be elite training.

[Aglitskaya] You always belonged to the RSFSR Ministry of Higher and Secondary Specialized Education, but trained specialists for the entire Union....

[Karlov] Other higher educational institutions also did this, but we have unique experience—the Kiev group. This is the admission of 50 people annually and accordingly the graduation of about 50 people. They are recruited in Kiev by our admissions commissions (of course, with the consent of the Academy of Sciences of the Ukraine), study here for four years, and for the two final, or in our jargon "base," years go to institutes of the Academy of Sciences of the Ukraine. I believe that it should also continue that way. Why shut ourselves up in some narrow republic framework? Higher educational institutions should be higher educational institutions. They should have their own reputation, their own fame, their own status, their own image. Subordination is a secondary issue. The higher educational institution should be autonomous, but state in the sense that only the state is capable of supporting the needs of society, which are aimed at basic research in the natural science or humanities field: It, after all, does not yield a direct, immediate return tomorrow, the day after tomorrow, or even in five years. Since the higher educational institution is on the territory of Russia, it should be the pride of this state. The Physical Technical Institute is the national property of Russia, and it is necessary to develop it.

[Aglitskaya] But here is this hasty commercialization, which has already begun at many higher educational institutions....

[Karlov] We are opposed to it.

[Aglitskaya] Completely opposed to it?

[Karlov] Well, if someone saw some young person and decided to support him, why not? As a personal contract, as a nominal stipend. But to make enrollment dependent on the fact that someone pays for the student—no!

[Aglitskaya] And what do you think, should this be prohibited? Or is each higher educational institution free to define its own position at its own expense? For when some, using their "immediate" prestige, announce paid enrollment, the wave of insolvent ones will immediately

rush back and they will automatically create an additional influx at "free" higher educational institutions. This is for us additional trouble with superfluous, casual people, who try their luck on the off-chance. But the Physical Technical Institute—I know this well—from year to year had its own, very purposeful "qualifying examination"....

[Karlov] All right, for God's sake. This year the competition increased noticeably here, and we are very satisfied. An excellent recruitment this year.

[Aglitskaya] By what do you explain this?

[Karlov] By the fact that the rector's office and the collective of the institute are devoting special efforts to this: Much vocational guidance work and extensive promotion were carried out, the necessity of education of this type was revealed. And many people understood—those people, who are gifted to an adequate degree, whose brains are organized in such a way that the natural scientific attracts them—many people understood that education today is capital, serious capital that cannot be taken away.

[Aglitskaya] But from the standpoint of the Physical Technical Institute as one of the most advanced higher educational institutions, what directions of the breakthrough in the area of education on the wave of our general revival would you contemplate?

[Karlov] The Physical Technical Institute intends to take and has already taken a large number of steps in order to develop modern economic and political sciences. And we will train specialists in these fields from among our undergraduates, who have a broad, bachelor-level basic training in the natural science cycle, physics, and mathematics—of course, from among those who understand that this is necessary.

[Aglitskaya] On the organizational and management level, what do you not have enough of and what do you hope to get?

[Karlov] We do not have enough money. And this is a trivial assertion—everyone does not have enough. We also do not have enough construction capacities, but we should change the way of life of our undergraduate: People, who use a single dirty bathroom for an entire corridor, cannot be cultured.

[Aglitskaya] But your conditions during my undergraduate years were considered not at all bad as compared with such, for example, an interVUZ communal building as the quite famous Stromynka was. But since that time many higher educational institutions in Moscow have been built up very decently.

[Karlov] Our whole trouble is that we are not in Moscow, but in Moscow Oblast. This was always an obstacle.

[Aglitskaya] But it seemed to me that the "island" existence of the Physical Technical Institute has its own special meaning. Rector Yeliseyev, I remember, for the

Moscow Higher Technical School even attempted to "invent all over again" this logic....

[Karlov] The logic of Yeliseyev and my logic are diametrically opposed. I am not a great specialist in the area of such engineering sciences as the building of electrical machines or steam engines—I do not presume to judge whether for them this has some meaning (although the experiment did not conclude very well). The Physical Technical Institute, which carries out the training of its own people with the hands and minds of those who do not work at the Physical Technical Institute a large part of the time, needs to have a headquarters and campus in Moscow. Then the entire Moscow intellectual potential should be used in the individual training of undergraduates: They should be uniformly distributed over the entire map of Moscow.

[Aglitskaya] And how are things going for you with foreign contacts and with currency?

[Karlov] There are considerable contacts, there is no currency. And here state assistance is also needed. Because owing to its specific nature the Physical Technical Institute itself cannot earn currency. Everything that we now do, we do on a reciprocal basis. But in reality start-up capital is needed in order to develop all this. For the fact that the Physical Technical Institute during the preceding 40 years was in essence a closed higher educational institute is also a drawback. They did not know it as such—they only knew its graduates. And now the bringing of this matter into line requires significant investments.

[Aglitskaya] In addition to dissident Shcheranskiy of the Physical Technical Institute, who is well known throughout the world, the Moscow Physical Technical Institute was famous "on the domestic market" for a strict military chair and traditionally powerful party structures. What is the situation today with the elimination of party structures?

[Karlov] The process went on as throughout the country and now, of course, has picked up speed. In general I should say that those party members, those communists, who are (and many were) at the institute—they are all reasonable, rational people, they are all professionals in our field, and they all understand everything perfectly well. There is also some portion of "fundamentalists," but they in reality do not determine anything. Everything will be normal.

Expanded Role Seen for Moscow Aviation Institute

927A0011B Moscow *RADIKAL* in Russian No 36,
18 Sep 91 p 7

[Article by G. S. under the rubric "A Fact for *RADIKAL*": "Convertible Master's Degrees"]

[Text] The Moscow Aviation Institute reacted very quickly to the Ukase of the President of Russia "On

Immediate Steps on the Development of Education in the RSFSR." The leadership of the higher educational institution addressed to Chairman of the RSFSR Council of Ministers I.S. Silayev the proposal to establish under the Moscow Aviation Institute the Russian Educational Center of Management and Engineering.

This will be a unified complex of educational institutions that are oriented toward the training of high-class specialists for the aerospace industry, which is an independent legal entity in the structure of the institute.

The activity of the educational center should be based on an international project. At present the Moscow Aviation Institute is formulating it jointly with the University of Montreal and the Paris Higher School of Economic Sciences and Commerce. The project envisages various levels of instruction, including the training of bachelors and masters of sciences.

As the initiators of the establishment of the educational center contemplate, the Higher Engineering School of

Business of the Aerospace Industry, a college, a lyceum (for Muscovites and students from other cities), and a scientific research laboratory for problems of continuous education will be a part of it (at the initial stage). Upperclassmen, undergraduates, and specialists already having a complete higher education, who have been selected according to the results of competition, will be able to study at all these educational institutions. The programs of their instruction will differ greatly from standard VUZ and school programs.

For example, at the Higher Engineering School of Business it is proposed to carry out the course of instruction in accordance with programs that have been approved by the European (or American) Association of Business Schools. The management and marketing specialists, who have been trained within the walls of this school, will leave with the qualification "master of sciences." The diploma, which has been given to holders of domestic master's degrees, will have international recognition.

Atomic Energy Ministry Sells Industrial Secrets Package

927A0010A Moscow *RABOCHAYA TRIBUNA*
in Russian 21 Sep 91 p 4

[Advertisement]

[Text] The USSR Ministry of Atomic Energy and Industry offers a complete set of documents on the protection of a commercial secret, the preparation of which was carried out by leading professionals of the sector, who work in the area of information protection.

A complex of legal relations and methods of the discrimination of commercial secrets, as well as a mechanism of the protection of information that constitutes a commercial secret are included in the set, which consists of three books.

The cost of the set is 2,100 rubles. Delivery is guaranteed within one month from the moment of payment to the current account of the Norma MP No 609666 at the Khoroshevo Department of the ZhSB of Moscow, Moscow Finance Department 201627, code number 38, code "Protection."

The contact telephone numbers in Moscow are: 239-23-86, 239-43-74, and 190-39-37.

Ural Institute Develops Medical Diagnostics AI Package

927A0010B Moscow *RADIKAL* in Russian No 36,
18 Sep 91 p 1

[Article: "What the Computer Prescribed...."]

[Text] An end product for various information technologies is being produced at the Institute of Mathematics and Mechanics of the Ural Department of the USSR Academy of Sciences.

Among these developments is the KVAZAR software system. Medical diagnosis is a most complicated and very crucial procedure. It is all the more surprising that it is possible to "teach" computers this job and even in some cases to achieve their successful competition with specialists. However, there is no getting around the fact, and the mathematical methods of pattern recognition, which are being used by Sverdlovsk mathematicians, make it possible to make an analysis of the symptoms of diseases, to evaluate the condition of the organism, to choose therapeutic procedures, and to predict the long-term results of treatment.

Scientists Association Hopes To Attract Foreign Capital

927A0007A Moscow *RADIKAL* in Russian No 36,
18 Sep 91 p 2

[Article by Galina Sidorova: "The Idea Is for Sale"]

[Text] A paradox of the times: The emerging Soviet market in exactly the same way as the toppled administrative command system is not taking into account scientific developments and in general the process of invention.

Enterprising people are trying to take possession of capital structures and the material and technical base, to redistribute in their own favor or to accumulate a few more rubles and a little more currency. At the same time the most effective technical and technological developments, which are capable of providing a manifold profit, are not coming into their field of vision. And, thus, scientific developments are dropping from the sphere of the primary accumulation of capital.

It has already become clear that the state is now also incapable of financing scientific research on a broad scale. Ought one to rely on commercial banks? Unfortunately, this expectation is also not justified. Inflation does not make it possible for banks to give long-term and low-interest credits even, as they say, for 100-percent scientific and technical programs.

The USSR League of Independent Scientists from the moment of its establishment sought a mechanism of the commercialization of science, which would provide the opportunity to privatize science and to convert innovation organizations to cost accounting and cost recovery and which, finally, would make it possible to derive an adequate profit by the very sale of highly effective technical solutions. And the organization of scientists found such a mechanism.

At the end of August the league jointly with more than 50 scientific organizations and industrial enterprises established the International Independent Science Exchange joint-stock investment innovation company. By means of the exchange the League of Independent Scientists will be able, at last, to implement the idea, which it developed earlier, of establishing author's firms, where the author of a scientific development in one legal person will also become the owner.

Why was it impossible before the establishment of the exchange to implement this idea? For a very simple reason: The inventor was hardly able to find several hundred thousand rubles in order to start his own business. The offering of shares in author's firms will make it possible to attract the capital of a large group of investors to the implementation of a scientific idea.

What is the basic novelty of what is being proposed? First, the selling of shares in an author's firm will make it possible to adequately finance scientific projects at all stages of the creative activity of the developer, starting

with the scientific idea. Precisely this stage of the creative process was the most vulnerable one. In our country the scientific idea was worth nothing and was not protected. Therefore, it was easiest of all to steal precisely an idea, moreover, with impunity. Which frequently happened. The exchange undertakes the making of an examination of scientific ideas and, after this, their financing. Of course, this is not yet the legal protection of the scientific idea, but at least it will already be "marked out." The mechanism of protection only has to be worked out, and the founders of the exchange regard this as one of the most important tasks. They are prepared to take part in the lawmaking work. The problem has been raised, and it will have to be solved anyhow. Second, author's firms will make it possible, at last, to defend more reliably the rights of the author of a finished development, which the new law on invention also did not succeed in ensuring.

The author receives an author's certificate and ceases to be the owner of his development. If he intends to sell his creation abroad, they will immediately take the inventor to court for the sale of "someone else's" property. The situation is practically the same if the author takes not an author's certificate, but a patent. Yes, he becomes the author of his development, but only temporarily. If within three years the inventor has not introduced the innovation, the state has the right to dispose of the authorship and, hence, the development itself. What is the sense of a patent? As practical experience shows, none. They try with all their might to keep the person, who has taken a patent, from introducing the invention within the established time, and then the state "takes the worry upon itself."

The establishment of author's firms puts an end to this arbitrariness. The intellectual product becomes the property of its creator.

In what else, in addition to the establishment of author's firms, does the International Independent Science Exchange joint-stock company intend to engage? It will issue, purchase, and float securities, engage in the purchase and sale of intellectual property and science-intensive commodities, and find creative personnel a job.

And another question: Why is the exchange called international? It intends to enlist foreign capital in its investment innovation activity and thereby to contribute to the mutual integration of Soviet and foreign science.

Soviet Scientists, Organizations Balk at International Patent Tariffs

927A0007B Moscow *RADIKAL* in Russian No 36,
18 Sep 91 p 1

[Article: "It Is Gorbachev Who Says: 'They Will Not Take a Cent From Us'"]

[Text] The patent fee of \$2,500-3,000, which is collected by U.S. firms, is becoming an insurmountable obstacle

for the majority of Soviet scientific and technical organizations, which are filled with the desire to appear on the world market and at the same time are experiencing a shortage of currency. It is disadvantageous to sell instruments and technologies without patents: In this case the authors lose all rights to the development, including the right to share in the profit.

The information received from the UrAN Scientific Production Firm makes it possible to hope that soon the patent problem will lose urgency. UrAN and the company USSR Inc. (the United States) have concluded an agreement on the patenting and commercial sale of developments on the territory of the United States, Europe, and Japan. "It is a rather good alternative," Valeriy Gorbachev, director of the firm, believes, "the services of USSR Inc. are taken into account in the settlements after the sale of our product—until this the Americans will not take a cent from us."

In the 10-year agreement USSR Inc. binds itself to deal only with UrAN, which, in turn, binds itself to select the most valuable developments, "which are recommended for patenting on the stipulated territory."

(UrAN Scientific Production Firm: 620219 Sverdlovsk, GSP-169, Ulitsa Pervomayskaya, 91. Telephone: 44-53-20, 44-39-93. Fax: 44-41-33.)

Computer Imports, Domestic Production Figures for 1990 Estimated

927A0027A Moscow POISK in Russian No 17,
28 Jun-4 Jul 91 p 2

[Article]

[Text] According to estimates of the Institute of Problems of Information Science of the USSR Academy of Sciences, in 1990 the imports of imported personal computers to the USSR came to 380,000-410,000. Domestic producers, having failed to fulfill the five-year plans by nearly 13 percent, delivered in five years a little more than 900,000 personal computers.

Soviet Educational Centers To Receive Hewlett-Packard Computers

927A0027B Moscow POISK in Russian No 25,
14-20 Jun 91 p 2

[Article]

[Text] "All our products, which are being offered to Soviet educational institutions, will be sold with the corresponding discounts," declared Vyacheslav Voropayev, marketing director of the Hewlett-Packard Company.

Traditionally the discounts come to: for computer hardware—up to 50 percent off the catalog price; for software—up to 90 percent.

In the words of Voropayev, the firm also intends to present "computer gifts to a number of educational centers of the Soviet Union."

One must assume that first of all the higher educational institutions, which have been assigned by the firm to the category of partners, will receive the presents. Hewlett-Packard is seeking them among educational institutions that have experience in the development of computer-aided design systems and automated enterprise management systems.

The telephone number for contacts is: 923-50-01.

Information Science Management Training Sponsored By IBM

927A0027C Moscow POISK in Russian No 25,
14-20 Jun 91 p 2

[Article by Oleg Basalin: "According to the Practices of IBM"—first paragraph is POISK introduction]

[Text] A few days ago the Center for the Support of the Business School Project of the USSR State Committee for Public Education and the IBM Corporation opened at the State Academy of Management.

A year ago IBM joined in the implementation of three large-scale projects in the educational sphere. One of them—the Business School—envisages the training of managers on the basis of new information technologies.

The center, which has been opened at the State Academy of Management, will engage in the development of methods of instruction and will train instructors for other centers. While through the fall they will be opened at the largest higher educational institutions of all the republics, with the exception of Lithuania and Moldova.

In Yerevan the business school is already ready to start work. The business activity of Armenia did not go unnoticed—the director of the center there was one of the first to be invited to Belgium to study the experience of organizing similar schools at IBM. The centers in Novosibirsk and Minsk are at the stage of opening. In all it is planned to establish 40 centers in the USSR.

Three-week advanced training courses will be organized for business managers. They will enable the students to master the methodology of solving economic and management problems. The program of the training of master's degree holders (the period of instruction is one to two years) will begin to be implemented a little later. High-class instructors, of whom for the present we do not have enough, will be required for its implementation.

The future of the project, in the opinion of Chairman of the USSR State Committee for Public Education Gennadiy Yagodin, will depend in many respects on the competence of our specialists. For after the first wave of foreign specialists they will have to rely on their own forces. It is important that the IBM spirit would remain in the classrooms that are furnished with IBM equipment. The spirit of a firm which, in the words of its representatives, is possessed by the idea of quality.

Lithuanian High-Tech Firm Struggles With West Trade Practices

927A0008A Moscow DELOVOY MIR in Russian
No 200-201, 7 Sep 91 p 10

[Article by Vytautas Maciulis, chairman of the board and general director of the Exma State Joint-Stock Plant of Laser and Electronic Equipment, under the rubric "Science" (Vilnius): "Read the Old Books"—first three paragraphs are DELOVOY MIR introduction]

[Text] The Calling Card of the Enterprise

The Exma State Joint-Stock Plant of Laser and Electronic Equipment was established in 1983 on the basis of the experimental works of the Institute of Physics of the Academy of Sciences of Lithuania. Since 1989 it has been a leased enterprise, in 1991 it was transformed into a state joint-stock plant. Its capital is 3.4 million rubles [R], 46 percent is stock capital, 54 percent is state capital. The number of workers is 150, there are 95 engineering and technical personnel. The sales volume in 1990 was R4.4 million, exports were \$90,000. The product specialization is scientific instrument making: solid-state picosecond and nanosecond pulsed lasers, optical components and mechanical assemblies for measuring systems, optical tables, and systems of the automation of the physics experiment. In recent times it has been laser therapeutic simulators and photometric gauges of hemoglobin in the blood.

The address of the plant is: 232053 Lithuania, Vilnius, Prospekt Savanoriu, 231; telephone: 64-15-51; telex: 261116 EXM SU; fax: (0122) 64-18-09.

Vytautas Maciulis, 46 years old. He graduated from Vilnius University twice—as a physicist and as an economist. He worked as a scientific associate in a physics laboratory. At present he is chairman of the board and general director of the Exma Plant and a member of the board of the Letovus vjarslas (Lithuanian Business) Commercial Bank.

During the first year—1983—a psychologist and a designer, a management consultant and a cyberneticist appeared at the plant. We had ideas and the desire to achieve a result.

And although the results are still far from our dream, we have learned much and have understood much. For example, that neither a psychologist nor an administrator nor a cyberneticist will solve for the manager the problems of managing the plant. Because none of them separately fathoms the fine points of the motivation of the behavior of people to such a depth which would be sufficient for the making of a correct decision.

We understood: The process of developing a new product is subject to its own laws. They, for example, show that the time of introduction lends itself poorly to reduction even in case of the concerted work of designers and developers. Regardless of the number of participants in the introduction process not less than nine months are

required for each stage of it. As R. Kraujalis, our chief engineer, liked to repeat: "If even nine pregnant women together without any stimuli of the process do not give birth during the same month to a child, what can one say about the birth of an instrument?..."

Alas, it did not immediately become clear: It is impossible to achieve high quality at a separately taken plant. But here perestroika arrived in time. It actually came to the plant in the form of "The General Procedural Instructions on the Leasing of a State Enterprise to a Labor Collective" of 11 May 1988. We succeeded in convincing them that the plant would operate better by being free. Those, who remember the first temporary instructions, and then the Law on Leasing, I think, noted that it was very progressive, made it possible to do away with the old stereotypes, and created the conditions to become the almost full-fledged master of their economic fate. And thus far nothing substantially better had ever been put into practice. One has only to recall with regret that the idea of leasing was wasted by the staff and did not become good training for future entry into the market.

The leasing contract opened for Exma new expanses of creativity. For in accordance with the law all questions of the choice of a product (the state order for the plant was quite liberal), the remuneration of labor, marketing, and the distribution of the profit were transferred to the jurisdiction of the enterprise. And we tried to make full use of these opportunities.

The results showed up quickly: The sales volume given a constant number of workers increased incredibly: 1988—R1.0 million, 1989—R2.4 million, 1990—R4.3 million. The problems of smoking breaks, coffee breaks, and discipline disappeared from the agendas of production conferences, waddling vanished from the grounds of the plant. Of course, the remuneration of labor also increased by threefold, a substantial differentiation appeared both among occupations and within a single group. That is, what we had dreamed about for a long time was achieved. Exotica also appeared: shares (true, not entirely those that exist in countries which have a stock exchange, but all the same), dividends, and the casting of votes by both natural and legal persons. And the first concept: We, the personnel of the plant, on the one hand, as people are equal, but, on the other hand, as owners are different, and this is very noticeable in case of voting and in case of the distribution of the profit. Although, incidentally, all this, perhaps, is correct, it is hardly fair.

The plant obtained its final legal registration in accordance with the laws of the Lithuanian Republic. In April 1991 the enterprise was registered as the Exma State Joint-Stock Plant of Laser and Electronic Equipment with a high degree of the privatization of capital (46 percent is stock capital), which is entirely independent and operates in accordance with laws, which are very close to the universally accepted joint-stock forms in market economy countries. The highest body of

authority is the shareholders' meeting, the legislative body is the board of supervisors, the executive body is the board of directors, which is appointed by the supervisors. The state participates in the management of the plant only through the department of the tax for the use of state capital, which it would be more correct to call the fixed dividend of the treasury.

The enterprise began to break through to foreign markets of scientific instruments.

Scientists of the FRG and Poland became the main customers. We sold picosecond lasers (their peculiarity is a pulse duration of 1 trillionth of a second) and nanosecond lasers (1 billionth of a second) for measurements of fast-running processes in biological molecules and semiconductors, laser power supply units, mechanical and optical assemblies for the development of measuring circuits, optical tables made of synthetic granite, and many other items.

Of course, our price is attracting customers. I remember the exhortations of a western businessman, which were expressed at the first talks on the sale of our products to the West: "Never forget that in the West they know only three high-quality products from the Soviet Union: vodka, caviar, and the Kalashnikov assault rifle. You will never prove that a Soviet product, if there is just one moving part in it, can be high-quality. Therefore, in spite of your quality, you can conquer only with a very attractive price." Experience shows that my old colleague is correct. In July of this year we participated for the first time and at our own expense in the very large laser equipment exhibition in Munich, Laser-91. We offered very low prices, although this is not very good from the standpoint of business ethics. And we received offers from 24 western firms to become distributors of our products. Of course, it would be possible to consider that this is a success. But life has taught us: You can rejoice over successes when the money appears in your account, moreover, legally. As for the Soviet market, it turned out that measurements now are not valued highly. The country needs socks and sausage, lumber and spare parts. Science is finding means of its development without the acquisition of new measuring instruments. But, as the proverb says, every cloud has a silver lining. The developers of the plant, having comprehended that you will not go far on the servicing of science, at least during the period of the formation of the new economy, looked on either side. And they found: Blood parameters are measured at our polyclinics in the same way as half a century ago, the same thing also goes for milk at milk combines, for water among hydrogeologists, and so forth. It turned out that photometric and spectroscopic methods, which have been used for a long time by physicists for their research, can be used splendidly in practice. They contemplated something like conversion in physical instrument making. In a few months the first electron-optical measurers of hemoglobin in the blood will come from Exma. Instruments for the determination of the composition of milk, drinking water, and other liquids, which are important for human life, are next.

This work, of course, does not yield such profits as the production of door and window frames or plastic decorations, but Exma is striving for prosperity in the future, and the measurement business, the precision business, we hope, will yet make themselves felt....

We are trying to follow the principle: "Face the consumer!" The basic concern in this direction is the development of a department for the service of our products. We know the incredible time by our notions of the correction of malfunctions of important equipment in developed countries, which comes to 24 hours, and for special cases to even less time. We are trying to respond to every report of a malfunction of our items. It is now already possible to accomplish this for customers of the Soviet Union and the countries of Eastern Europe in a few days. And, of course, our goal is to achieve the European standard!

In watching the formation of market, business, and trade relations, I want to share with colleagues—Soviet and foreign entrepreneurs—some thoughts which give me no peace. I will take, for example, the admiration for advanced western know-how in the area of economics, marketing, and management. Familiarity with numerous programs shows the aspiration of their authors to transfer to us the present know-how of developed countries. However, no one takes seriously, I hope, the six-day courses in the training of managers. The leap from "developed socialism" to developed capitalism, it seems to me, is like other well-known leaps with the subsequent overcoming of their consequences. In my opinion, now a more useful thing is to study the experience of capitalism of the beginning of the century and to read the old books. Believe me, they are so topical! Including the fiction of that time, if only Dreiser.

On the other hand, the problems of the market and commodity and stock exchanges have somehow superseded the questions of intrafirm management and the procedure of the activity of joint-stock companies. But this is no less important for the establishment of an economy of the new type.

Another stereotype: State organizations in the Soviet Union, they say, are sluggish and inefficient, but then private, joint-stock, and other organizations are very practical and reliable. I am even amazed to what extent westernizers become gracious, having heard that we are nearly a private company. Of course, I understand: The future of the economy is with private capital. But, having bitter experience, I am inclined to think and to suggest to others that for the present one should treat the private Soviet company at times with suspicion.

The syndrome of the savior privatization is beginning to form, even at very high levels. However, the appearance of worker-stockholders (here they are 60 percent of all the working people) in two years, alas, did not make substantial psychological changes in their attitudes toward private corporate property. The turning of parts in accordance with an unofficial order from corporate

metal does not evoke even a thought of something bad either for the very person who likes to earn some more or for his colleague stockholders. Apparently, the shoots of a master are under a multi-pood layer of habits of national no man's ownership. And to expect that two to three years after the privatization of state plants their work will change radically, is, from my bitter experience, an utter illusion. The fact that the workers received a large portion of the shares as if free, having divided the property, which was produced in a year and was not paid for in monetary terms, also did, in my opinion, a bad service. But when they suggested that they buy shares with their own money, an agiotage demand did not form. In my firm conviction, the state idea of dividing a large portion of the property among citizens can also be accepted only as a means of appeasing the people, but not as a means of reviving the economy. While it would be worthwhile for the entrepreneur to look at this as an important, but not the most effective means of economic therapy.

Exma is looking ahead with hope. In spite of the difficulties, we are trying to avoid the temptation to earn well today and not particularly worry about tomorrow. We have succeeded in obtaining a parcel of land, which is well equipped on the engineering level, for the construction of a new plant in Vilnius. We could bring in a partner, to whom our approach to production and development is close and who will strive for accuracy in measurements and reliability in work.

The entrepreneurs of the former Soviet Union, I think, are full of healthy fury and long to achieve success. Exma supports them.

Bashkir SSR Supreme Soviet Orders Formation of New Science Academy

927A0028B Moscow SOVETSKAYA ROSSIYA
in Russian 19 Oct 91 p 2

[Article by SOVETSKAYA ROSSIYA correspondent M. Merzabekov (Ufa): "A New Academy"]

[Text] In May of this year the Presidium of the Bashkir SSR Supreme Soviet adopted a decree on the establishment of the Bashkir SSR Academy of Sciences. Today the formation of the structures of the new scientific center is in full swing. Recently 34 honorary academicians of the Bashkir Academy were elected.

Prof. O.A. Kaybyshev, who is the organizing president of the Bashkir SSR Academy of Sciences, henceforth an academician, and director of the Institute of the Superductility of Metals, relates:

"The ideology and structure of the new academy of sciences are based on the overcoming of the traditional delimitation of academic, VUZ, and sectorial science. The academy is being established as an association of scientists, irrespective of what sector they work in. This concept also found reflection in the selection of the

nucleus of the academy. Both 'purely' academic scientists and scientists of VUZ and sectorial science, who represent various specialties, were included in it."

Future of Estonian Science Discussed

92UN0216C Tallinn RAHVA HAAL in Estonian
6 Oct 91 p 2

[Article by Arno Kõörna: "About the Future of Estonian Science"]

[Text] The contours of the restoration of Estonian independence and design of the society's near term future are outlined in the government's 3x3 plan. However, points of departure for changing Estonia's scientific life are not in it. Tartu University's council rushed to correct that shortcoming with its proposal to solve this complicated problem instantly by reorganizing the Estonian Academy of Science and subordinating its elements to the universities already as of 1 January 1992.

Over 4000 people work in the Estonian Academy of Science. Mostly highly qualified specialists. In the Academy's 16 scientific branches work 652 science candidates and 102 Ph.Ds. The fields of science researched in the Institutes have attained results noted in the whole world. We can name work in biotechnology, microelectronics, construction knowhow, astronomy and astrophysics, new chemical preparations, geology of Estonian earth resources, ecology, oceanographic research, and other fields. Tens of the Academy's scientists have been elected members in international scientific organizations and in their top management.

The greater part of the Academy folk know themselves that reorganization is necessary and such proposals coming from elsewhere indicate breaking in through doors that are already open. The issue is that winds of change must not blow apart all that is valuable, which in Estonian science is the Academy's scientific community, its brain potential. That would be an irreparable loss not only to Estonian culture, but to all walks of life affected by science. In case of a sudden downdraft there is no guarantee that in nooks and crannies will remain only accumulated resources of lesser value.

We know that chaff is separated from grain by blowing and do not fear that. It cannot be denied that there is chaff. At the same time, we cannot view today's science in a simplified way, as if it consisted of only well-known top scientists. At the head of the branches of science are of course energetic, specially endowed brains, generators of new ideas. Implementing ideas, however, falls on the shoulders of the industrious, so-to-speak middle-level scientists and numerous assistant-engineers, laboratory technicians, technicians, and others. Scientific collectives are just like well-tuned orchestras. If someone plays the wrong note, then he is replaced. But if the conductor is not up to his task, then the orchestra falls apart.

In the conduct of rearrangements it is important to develop suitable social and economic conditions, so that Estonian science will not die out, but will develop further

and bring practical benefit and fame to the new Estonia. It is not important whether new theories, paradigms, technologies are born in academic institutes or in universities or even in the head of private scientific practitioner. What is important is that they be born and that Estonia's future organization of science would promote that. That is the concern of our scientific community and probably also of the Estonian people.

As to the organizational changes, then the Academy is ready to move to a new organization structure of science as quickly as possible. But to cross out with one stroke of a pen the present centralized basic research system, and at the same time not envision clearly what should be the content of the new - this would reflect to us the recent thought-process: act first, think later. This could be done when uniting East Germany with the rest of Germany but we cannot count on anyone else. Up to now, with the exception of a few missionaries, we also do not see migration here of expatriate Estonian scientists. Just the opposite - more people leave from here to go abroad.

The Estonian Science Council has begun preparation of essential rearrangements. In principle, one must agree with the position of the Estonian Science Alliance that "moving calmly and wisely toward the desired goal, it is possible during the next year or two to develop a science- and higher education system that corresponds to the resources and needs of the Republic of Estonia."

Presumably, that cannot be limited to just placing all science in the universities.

The result of well thought-out and unrushed reorganization undertaken could turn out to be the following structure for Estonian science:

The Estonian Academy of Science as an academy of individuals, to which belong outstanding scientists in all branches of science (including medicine, agriculture, etc.);

Universities as central, above all basic research promoting organizations;

State scientific establishments to support the republic's most important program goals and substantial international scientific cooperation;

Research establishments of large enterprises or their associations to carry out applied scientific research.

Also several other variations are possible.

Nothing good comes from interfering in scientific work or in organization of science. Estonian science does not wish to stand apart from the implementation of the independence program.

ARNO KOORNA Chairman, Estonian Science Council

Kazakh Academy of Sciences Establishes Information, Space Institutes

927A0009A Moscow *RADIKAL* in Russian No 36, 18 Sep 91 p 1

[Article under the rubric "A Fact for RADIKAL": "New Institutes"]

[Text] The Kazakh SSR Academy of Sciences has adopted decrees on the organization of new subdivisions of the republic Academy of Sciences—the Institute of Problems of Information Science and Control and the Institute of Space Research. The basic directions of their scientific activity have been specified.

The Institute of Problems of Information Science and Control will engage in the development of the procedural principles and provisions of the scientific methods supervision of the processes of the informatization of the republic, as well as mathematical methods of simulation and control in the national economy on the basis of new information technologies and new generations of computer hardware. The development of the scientific principles of artificial intelligence systems, new information technologies of the generation of data banks, software products, and technological process control systems will be the most important task of the institute. Scientists of the institute will also engage in the development of the theoretical principles of the devising of computers based on the principles of a nontraditional architecture and in the study, design, and control of digital integrated services networks and local area networks.

The scientific support of aerospace and ground ecological monitoring and the ecological forecasting of the anthropogenic effect on natural economic complexes, as well as the study of the state of ecological systems under the conditions of an anthropogenic load on the biosphere will be the main job of the Institute of Space Research. The scientific methods support and maintenance of space experiments on materials science, technology, and biotechnology and the ground maintenance of aerospace experiments have also been assigned to the institute.

Ukrainian Academy of Sciences Struggles With Independence Issues

927A0009B Kiev *PRAVDA UKRAINY* in Russian 14 Sep 91 p 2

[Article by Tamara Mayboroda: "Science in the Independent State"—first two paragraphs are *PRAVDA UKRAINY* introduction]

[Text] What is it to be like? What priorities are to be chosen? How are its subsequent relations with colleagues from the union republic-states to be organized? What structural changes is it to undergo?

The participants in a recent meeting of the presidium of the Academy of Sciences of the Ukraine tried to find together an answer to these and a large number of other questions.

They tried, because, of course, such questions are not settled easily and simply....

Having completely supported the act on the proclamation of the independence of our state, the scientific meeting was not so united in the assessment of the situation that has formed in republic science.

During the discussion of the basic tasks facing the Academy of Sciences under the conditions of the formation of a state that is independent in all respects, which the Ukraine should become, three trends emerged: The Academy of Sciences of the Ukraine, just as the republic itself, should become absolutely independent; Ukrainian science cannot completely withdraw from all-union structures and should as before be integrated if only with Russian science; the Ukrainian Academy initially should sever relations with former colleagues from the USSR Academy of Sciences in order then to set up selective cooperation both with them and with colleagues from other countries of the world.

Yes, theoretically all three means are possible and in their own way are acceptable. Practice, most likely, will make its own adjustments in these plans and will make it incumbent to seek something in between, some compromise.

President of the Academy of Sciences B.Ye. Paton, this time having rejected a report, limited himself to the opening speech, in which he stressed the special role of scientists in the building of the new Ukraine. In his opinion, the path to the establishment of a truly strong independent state is, first of all, the path of scientific development.

There are more than enough difficulties on this path. Task number one is to get in a fitting manner out of the economic crisis, in which we are today. Thorough economic science substantiations at least are needed for this. Such substantiations are also needed for the normal activity of the Ukraine within the economic space that is in common with other republics.

The "taking of an inventory" of such an enormous economy is a supercomplicated matter, inasmuch as many not only scientists, but also men in power have the desire to calculate our "debit"-"credit" in world prices.

The need for the modernization of the key sectors of the economy has arisen with all obviousness. Ecological problems are literally "shouting" about themselves. And here scientists also have a considerable say.

As for the role and place of the social sciences, in the formed political situation they need the most radical changes.

The efficiency of such a powerful structure as the Academy of Sciences to a large degree is determined by

the extent of financing. Today this is the sorest point: After all, until recently only 2-3 percent of the scientific needs were met from the republic budget, the union budget "invested" the rest in science. It is a matter of vast assets, which the Ukrainian government for the present will hardly succeeded in compensating for.

Hence, attention should be focused again and again on the priority directions of an applied nature. As one of the academicians who spoke during the discussion noted, "it is high time for us to learn not only to buy, but also to sell new technologies." Especially as we have them, and they are entirely competitive.

There is no need, I think, to list all the services and achievements of republic scientists, of which they have many and in which they have the right to take pride. The scientific potential of the Ukraine is well known and considerable. To preserve and increase it is the task that is on the agenda of not only the Academy of Sciences, but also governmental bodies.

Organizational Meeting for RSFSR Academy's Ural Department Announced

927A0028A Moscow POISK in Russian No 25,
14-20 Jun 91 p 2

[Article by POISK correspondent Lidiya Usacheva (Sverdlovsk): "The Ural Compromise"]

[Text] The first meeting of the preparatory organizing committee for the establishment of the Ural Department of the Russian Academy of Sciences was held in Sverdlovsk. Prof. Vladimir Tretyakov of the Ural State University, a member of the organizing committee, comments on this event:

"The quite involved situation with the establishment of the Russian Academy of Sciences, it appears, is beginning to become clear. For until the making of the decision by the republic Supreme Soviet what structures they established! They even held a congress of scientists of the Urals, at which they elected their own, 'democratic' organizing committee. But soon they understood that it is simply absurd to oppose the movement of the scientific community to the decisions of the supreme authority, for we have the same goal. The appointment of Academician Yuriy Osipov, a Ural scientist, as organizing president of the Russian Academy of Sciences probably also affected the outcome of the matter. The democratically elected organizing committee supplemented the officially established one.

"At the held meeting the main task for the immediate future was specified: to formulate scientific programs, on the implementation of which the Russian Academy of Sciences, including its Ural Department, has to work."

**Marchuk, Kudryavtsev Meet With Scientists
Groups Over Coup Position***927A0012A Moscow RADIKAL in Russian No 36,
18 Sep 91 pp 1, 2*

[Interview with Aleksey Zakharov, member of the Club of Voters of the USSR Academy of Sciences, by RADIKAL correspondent Vladimir Pokrovskiy; date and place not given: "They Expect a Civic Stand From the Academy"—first paragraph is RADIKAL introduction]

[Text] The Presidium of the USSR Academy of Sciences, which was most suspiciously silent during the putsch, has lost the traces of trust, which the academic community still placed in it, and is now trying somehow to correct the situation. In any case it is difficult to appraise otherwise the proposal to meet, which was sent soon after the victory by President of the Academy of Sciences Guriy Marchuk to representatives of the Club of Voters of the USSR Academy of Sciences and the USSR Union of Scientists. This meeting, which took place on 29 August at the new building of the presidium, at the least, completely clarified the position of the parties with respect to the future of the academy and, perhaps, will play subsequently a very significant role in its life. We bring to the reader's attention the conversation of our correspondent, Vladimir Pokrovskiy, with one of the meeting participants, Aleksey Zakharov, a member of the Club of Voters of the USSR Academy of Sciences.

[Zakharov] Strictly speaking, there were two invitations—from G.I. Marchuk and from Vice President of the Academy of Sciences Vladimir Kudryavtsev, Zakharov said. We refused to meet immediately and first convened the coordinating council. There were people who said that it is necessary to avoid a meeting altogether, since the leadership of the Academy of Sciences, which at one time was put in the armchairs not without the active participation of the CPSU, will probably try to use this meeting to show what democrats they are and how progressively they think, and thereby the Club of Voters of the USSR Academy of Sciences will contribute to the continuation of their existence.

A more moderate and, I believe, a more reasonable point of view prevailed—we decided to go.

The point is that now, when all the union structures are cracking, it is very important not to make a real mess of things. After all, of all the deformed fruits of the Soviet system the Academy of Sciences is, perhaps, the least.... People of all sorts sit there, but competent ones predominate, it is just that they have, as events showed, some difficulties with morality. It goes without saying—reforms at the academy have become urgent, moreover, the most radical reforms, but it would be simply criminal to take advantage of the wave of revolutionary emotions and to begin to destroy this department, because together with several chairs all our basic science also could quite possibly collapse.

We need not one-on-one combat, but cooperation, which is based, of course, on trust and competence. We agreed to these meeting precisely in order to help the presidium to make an attempt to restore the lost trust and after that to set to work on reforms.

In addition to the talk with Kudryavtsev, we had at that time two other conversations—with Makarov and Osipyan. Both vice presidents and the chief scientific secretary said very correct, very intelligent things—about the fact that reforms are needed, contacts with the democratic community are needed, and so forth—but we were left with the impression that they do not have a very good idea of the reforms, because, very likely, they never thought about them in earnest. They invariably ignored the packages of our proposals on reforms.

[Pokrovskiy] And how did they comment on the silence of the presidium during the coup?

[Zakharov] In general they condemned it. Only Osipyan tried to justify the silence by the fact that the academy is a scientific institution and should deal with science, while politics is not its affair. Such justification does not hold water for at least three reasons: In the Charter of the Academy of Sciences it is noted that it builds communism under the supervision of the government, which in itself is an exclusively political activity; second, at the academy there are scientific research institutes, for which politics is their bread; and, finally, the academy engages de facto in practical politics, since it elected on its own behalf USSR people's deputies. But the main argument against Osipyan's thesis is that here it is at matter not at all of politics, but of the civic stand—whether you recognize the law or brute force. Precisely the civic stand of the presidium, and not its political views, did not suit us—it was simply immoral to keep silent at that time.

However, the central meeting was, of course, with Marchuk—we prepared thoroughly for it.

It began with the speech of Guriy Ivanovich. He spoke for quite a long time and very evasively, so that it was very difficult to catch the main idea. Still it was possible to single out some theses. The president of the Academy of Sciences had changed his position somewhat. Whereas earlier he had spoken about the fact that the academy needs stability, now he agreed with us that reforms are necessary. Whereas earlier it was asserted that only the Academy of Sciences can distribute the assets of budget financing, now it is a matter of transferring a portion of the assets to the scientific community.

Further, Marchuk intends to transfer all the property to the institutes....

[Pokrovskiy] Excuse me, what do you mean "to transfer"? But have they really not transferred it yet? For there was the decision of the presidium in September of last year on the transfer of property?

[Zakharov] No, a commission for property was merely set up and there were verbal promises. The property remains with the academy. At first they told us—we will transfer all the property to you, but when they began to draw up the appropriate documents, it turned out that they had been drawn up in such a way that everything remained in the academy and nothing reached the institutes. We worked together with Vice President O.M. Nefedov on this commission, and initially this document left everything in the ownership of the academy, while only what is called "the right of day-to-day management" was transferred to the institutes. We objected to such wording and believed that institutes should have the right of day-to-day use only to national tools like an accelerator or expensive equipment similar to it and to what is national property, while oscillographs, computers, and buildings, which are not a historical value, and so on, should be under full economic control. Such wording signifies that the institute cannot sell the property, but in other respects uses it at its own discretion and retains the entire profit. On the other hand, we believe that to transfer the property rights to institutes completely is also a very dangerous venture. Then there will appear for institutes the temptation to engage in activity that is most advantageous economically. The commercialization of basic science is just as harmful for it as its deprivation of all kinds of assets. In the commission, about which I spoke, the most sensible, in our opinion, decision was made—the property was left in the academy, while they attached the right of full economic control to the institutes. This enables the institutes to create by means of the derived profit their own property. We consider such a version with mixed ownership most acceptable. There are both freedom for the independence of institutes and "safety" levers so that the scientific community would not disintegrate. While the transfer of all the property, I repeat, is more a populist than an intelligent step.

Such, perhaps, are not all, but the basic theses of the speech of Marchuk, but since it was very vague, after approximately half an hour we tactfully inquired of him what time he had, inasmuch as we would like to ask him a number of questions and to clarify our own position. The hint was taken.

It is not worth, perhaps, dwelling too long on the list of these questions—for their most part they concerned problems that, although important, are local.

[Pokrovskiy] And did you ask about the silence during the putsch?

[Zakharov] Yes, of course, this was our first question. The reply was in the spirit that, they said, the presidium inwardly did not accept the putsch, but no one made any statements—they merely told the directors of the institutes that they themselves would specify their attitude toward what was happening.

One entertaining funny thing happened during these questions. We asked the president—How many staff

members of the KGB are there at the academy? The response was: "About three." Then I asked Guriy Ivanovich to introduce to us the four colleagues who had sat in the corners of the office—they did not introduce us to them on meeting. One of the "colleagues" rose and informed us that he was the chief of a department of the militia and had come simply because he wanted to find out a little more about what is going on among scientists in order subsequently to tell his comrades about what he had seen. It was amusing....

Then we made the statement that was agreed on in advance. It turned out to be quite harsh and consisted in the following. We stated the fact that a difference in civic stands is capable of giving rise to distrust and declared that, in our opinion, it would be a very good idea if the presidium would take a few steps aimed at the restoration of trust, which would open a joint path to reforms. First, we had in mind the elimination of party organizations from the academy. The academy, which always duplicates without a murmur all the orders of superior organizations that concern it, did not issue an RAN (order of the Academy of Sciences) on the elimination of party organizations. Thus, a number of directors were placed in a rather ambiguous position.

Further, with respect to the staff members of the KGB it is necessary to act, in our opinion, as the Central Television Main Editorial Staff acted—to return them to their basic place of work, while all the truly necessary security and protection services should be subordinate not to the KGB, but directly to the management of the enterprise, at which these services operate.

We also consider it advisable that representatives of the middle level of the scientific community, and not just academicians, belong to all press formations—for example, to the editorial board of the newspaper POISK. This would rid us of the gap, at times a very harmful gap, in points of view.

It would be very important, in our opinion, if the presidium would acknowledge the harm of the monopoly management of science and by the appropriate reforms would keep from the monopoly distribution of assets for the conducting of basic research.

All the listed steps are of a preliminary nature. After them it is possible to set to work on real substantive reforms. This does not mean changing the name of the academy from the union to the Russian academy—such a thing in principle is possible, but will actually give the institutes hardly anything. It is necessary, we believe, to establish a confederation of scientific research institutes. Its highest body like a national scientific council would elect an executive committee and would accountable to and under the control of the institutes. The present situation has little in common with self-management. Today academicians elect their members to their own understanding, they elect the presidium, it appoints the staff, which, in turn, supervises the institutes. A large number of various funds, which sustain scientific

research, are necessary for decreasing the influence of subjectivity. These funds should differ with respect to the charters, but if they do not differ with respect to the charters, there should be a difference with respect to composition—as, strictly speaking, is done in developed countries.

When carrying out such reforms very many difficult questions, which it is impossible to settle on the spot, arise—in such cases an elaborate thought-out set of compromises is needed. An example of this is the question with academic property, which has already been touched upon. In addition to this question, to the question of the commercial activity of scientific structures, there are a large number of other problems, which neither we in our little room of the Club of Voters of the USSR Academy of Sciences or academicians in the offices of the presidium can solve. Here serious joint analyses are needed. While a congress is necessary for this. Without a congress clearly nothing will come of it. Otherwise only two options are possible—either the complete destruction of the academy and the spontaneous coming of institutes under Russian jurisdiction (we believe that such a “Brownian” academic movement will not lead to anything good) or the change of the sign without serious structural changes. While a completely different thing is needed—the convening of a congress of scientists and a legitimate change (that is, the congress delegates, who have been elected by collectives, should have the appropriate powers) are needed.

[Pokrovskiy] But, as far as I know, such a congress was already organized and was upset namely by the academy....

[Zakharov] Yes, for about a year we have been in touch with the presidium with regard to this congress. Once a decree of the presidium on the convening of the congress was even signed, it was stamped by all the vice presidents, but at the very last moment Marchuk reversed direction, having consulted in the spring in Dubna with the presidents of the academies of the union republics. They said: How can you, how can you, now is not the time, there will be very many populist statements, and so forth, in the same spirit.

[Pokrovskiy] But since you have already burnt your fingers on contact with the presidium, should you not, perhaps, convene the congress without it?

[Zakharov] I would not want to. This would create a large number of problems. In order to convene an effective congress of scientists, two things are needed—its legitimacy and the appropriate level of organization. It is necessary, in other words, that all the basic collectives respond. But it is possible to organize such a thing only when the director and the scientific council, if they do not support the convening of a congress, if only do not

oppose it, but without orders of the Academy of Sciences this is difficult for the academy. Moreover, there is the financial aspect—hotels are needed, a large hall is needed, since the congress should be representative, and so on. In principle we do not see now why the academy should oppose the convening of such a congress. True, Marchuk insists that this be a conference, not a congress—for a conference can only discuss problems, while a congress is authorized to solve these problems. But if the proper legitimacy exists, it is also possible to agree to a conference—after all, it is entirely capable of declaring itself a congress....

[Pokrovskiy] But what if there is still opposition on the part of the presidium?

[Zakharov] In such a case we will be forced to appeal to the Russian authorities and to hold the congress with their assistance. But, I believe, it will not come to this.

[Pokrovskiy] And how did Guriy Ivanovich react to your statement?

[Zakharov] He took offense at the harsh words. The steps proposed by us on the restoration of trust particularly stung him, he perceived them as preconditions that were expressed as an ultimatum. But it is a pity, because this is not at all the case. We are interested in reality, and not for the sake of diplomacy, in cooperation with the academy. Confrontation here is not needed and is dangerous. But an offense is an offense, while business is business. At the end of the conversation Guriy Ivanovich invited us to set forth our views at the next meeting of the presidium.

USSR AS Siberian Department To Require AIDS Testing

927A0029A Moscow POISK in Russian No 25,
14-20 Jun 91 p 2

[Article by POISK correspondent Olga Kolesova (Novosibirsk): “The Presidium of the Siberian Department of the Academy of Sciences Warns....”]

[Text] The Presidium of the Siberian Department of the USSR Academy of Sciences made the decision on AIDS testing for all foreigners, who come to the Academy Campus for work or study, as well as Soviet scientists, who have somehow managed to stay abroad more than three months.

The guests, who avoid checking, will be forced within 10 days to leave the Academy Campus, while our people take the risk of being derived forever of foreign business trips.

Thus, the Presidium of the Siberian Department of the Academy of Sciences warns: Disobedience is dangerous for the career!

Advertisement for All-Union Computer Fair

927A0030D Moscow *RABOCHAYA TRIBUNA*
in Russian 10 Oct 91 p 3

[Advertisement]

[Text] The All-Union Exhibition and Trade Fair
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**USSR Academy of Sciences Announces 4th
Quarter Conference Schedule**

927A0030A Moscow *POISK* in Russian No 33,
9-15 Aug 91 p 2

[Article: "The Invitation Card"]

[Text] During the fourth quarter the USSR Academy of
Sciences plans to carry out the following measures in the
area of the natural sciences:

The Fourth Conference on Mass Crystallization and
Crystallization Methods of the Separation of Mixtures
(Ivanovo, October). The responsible parties—the Insti-
tute of General and Inorganic Chemistry of the USSR
Academy of Sciences, the Ivanovo Chemical Technology
Institute. Telephone numbers: 2-73-38 (Ivanovo), 234-
72-38 (Moscow).

The Conference "The Development and Production of
Advanced Welded Components With the Use of
Resource-Saving Technologies" (Kiev, October). The
responsible party—the Institute of Electric Welding of
the Academy of Sciences of the Ukraine. Telephone
number: 227-12-83 (Kiev).

The Fifth Conference on the Metallurgy of Manganese
(Nikopol, October-November). The responsible party—
the Institute of Metallurgy of the USSR Academy of
Sciences. Telephone number: 135-20-60 (Moscow).

The Seventh Conference on the Spectroscopy of Biopoly-
mers (Kharkov, October). The responsible parties—the
Scientific Council of the USSR Academy of Sciences for
Problems of Biological Physics, the Institute of Radio
Physics and Electronics of the Academy of Sciences of
the Ukraine. Telephone number: 44-83-94 (Kharkov).

The Symposium "Synergism in Radiobiology" (Push-
chino of Moscow Oblast), October) The responsible
party—the Institute of Biological Physics of the USSR
Academy of Sciences. Telephone number: 3-90-01,
extension 3-03.

The Conference "Functional Cell Morphology" (Lenin-
grad, October). The responsible parties—the Scientific
Council of the USSR Academy of Sciences for Cell
Biology, the Institute of Cytology of the USSR Academy
of Sciences. Telephone numbers: 247-18-59, 247-18-29
(Leningrad).

The Symposium "New Methods of the Biotechnology of
Plants" (Pushchino, October). The responsible parties—
the Scientific Council of the USSR Academy of Sciences
for Problems of Biotechnology, the Bioinzheneriya
Center of the USSR Academy of Sciences. Telephone
number: 135-31-00 (Moscow).

The Conference "The Results and Prospects of Scientific
Studies of Microbe Polysaccharides" (Kiev, October).
The responsible party—the Institute of Microbiology
and Virology of the Academy of Sciences of the Ukraine.
Telephone number: 266-11-79 (Kiev).

The Conference "Ecological Aspects of the Chemicaliza-
tion of Agriculture" (Moscow, November). The respon-
sible parties—the Exhibition of USSR National Eco-
nomic Achievements, the Joint Scientific Council of the
USSR Academy of Sciences "The Scientific Principles of
the Chemicalization of Agriculture." Telephone num-
bers: 135-63-75, 135-21-85.

The Fourth Conference "Microorganisms in Agricul-
ture" (Zvenigorod, December). The responsible party—
the Scientific Council of the USSR Academy of Sciences
for the Problem "Microbiology." Telephone number:
135-10-29 (Moscow).

The Symposium "Assessments of the Prediction of the
Burden and Intensity of Labor" (Nizhniy Novgorod,
October). The responsible parties—the Scientific
Council of the USSR Academy of Sciences for the
Program "The Support of the Vital Activity of Man," the

Institute of Labor Hygiene and Occupational Diseases of the RSFSR Ministry of Health. Telephone number: 36-22-63 (Nizhniy Novgorod).

The Symposium "The Biological Effect of Hypomagnetic Fields" (Tbilisi, October). The responsible party—the Institute of Physiology of the Academy of Sciences of Georgia. Telephone number: 37-11-39 (Tbilisi).

The Second Symposium "The Metastasis of Malignant Tumors: New Approaches" (Irpen of Kiev Oblast, October). The responsible party—the Institute of Problems of Oncology of the Academy of Sciences of the Ukraine. Telephone numbers: 263-60-75, 226-75-98 (Kiev).

The Conference "The Mapping of the Brain" (Moscow, November). The responsible parties—the Scientific Council of the USSR Academy of Sciences and the USSR Academy of Medical Sciences for Physiological Sciences, the Institute of Higher Nervous Activity and Neurophysiology of the USSR Academy of Sciences. Telephone number: 338-95-00.

Seminar on Diamond Film Technology Meets at Lake Baykal

927A0030B *Moscow POISK in Russian No 33*,
9-15 Aug 91 p 2

[Article]

[Text] The First International Seminar on Diamond Films, which brought together on the shores of Lake Baykal 50 scientists from the USSR, the United States, Switzerland, and the PRC, was held. The International Nongovernmental Organization "The Forum of Scientists and Specialists for Soviet-American Dialog" was the initiator of the holding of the meeting. Academician Konstantin Frolov, president of the forum, headed the organizing committee of the measure. In addition to this information seminar participants V. Sinyakov and B. Spitsyn also kindly reported:

"The work in the area of gas-phase diamond, which was begun first in our country (the Institute of Physical Chemistry of the USSR Academy of Sciences), showed that diamond and diamond films can be obtained under mild, more practicable conditions of synthesis—at a

pressure of the gaseous atmosphere, which is less than atmospheric pressure, and a temperature of about 1,000 degrees";

"Abroad up to 15 international conferences in this field of knowledge, which has received the name of new diamond science and technology, are held annually";

"In our country such a seminar is being conducted for the first time, in the future the meetings will be regular."

Moscow Seminar Meets on 'Human—Computer Interaction'

927A0030C *Moscow POISK in Russian No 33*,
9-15 Aug 91 p 2

[Article by Oleg Lvov (Moscow): "Homo computeris"]

[Text] The First Moscow International HCI Seminar continued the longstanding tradition of conferences and seminars, which are well known in the computer world by the name "Human—Computer Interaction." It brought together scientists and businessmen from the firms of Apple, DEC, CWI, and Rank Xerox EvroPARC, universities, and scientific organizations of the United States, the USSR, Germany, the Netherlands, Poland, Canada, and other countries.

The International Scientific and Technical Information Center, the American Association of Computer Manufacturing, and the University of California organized the seminar.

It is already clear that the informatization of society is not simply the increase of the number of personal computers, this is also the solution of the entire range of problems that arise during the communication of man and computer. The experience of leading countries shows that often the relations in this link are tense and contradictory. American sociologists in their research of the 1970's noted a negative attitude of the top executives of large companies toward direct contacts with personal computers. In the opinion of scientists, the television series "Dallas" helped to break the ice of hostility—there one of the main heroes, an oil boss, handled a computer deftly. There are a large number of similar fine points in the interrelations of man and machine. The majority of them were reflected in the seminar themes, which were submitted for discussion: "Languages of Communication With the Computer," "The Psychology of Communication With Computers," "Communication With Computers in Natural Language," and "Computer-Aided Instruction and the Transfer of Knowledge."

Smirnov Review of Book 'Repressed Science'

927A0020A Moscow IZVESTIYA (Union edition)
in Russian 9 Oct 91 p 4

[Review by Kim Smirnov of book *Repressirovannaya nauka* (*Repressed Science*), edited by M. G. Yaroshevskiy, compiled by L. I. Melua and V. M. Orel, Nauka, Leningrad, 1991: "Sakharov Has Gone. But Who Is Taking Over? Notes in the Margins of the Book *Repressirovannaya nauka* on the Eve of the General Meeting of the USSR Academy of Sciences"]

[Text] On 9 October the general meeting of the union Academy of Sciences, which has to decide its fate, opens. A book on the crimes of Stalinism against science¹ appeared on its eve. And these two, outwardly unrelated events somehow have been unexpectedly linked in consciousness. For the book turned out to be such that it is evoking reflections not only on the past, but also on what century it now is in our scientific "court"; it is symptomatic of the state of this court and contains a large number of lessons for today and tomorrow. While reading it, suddenly you clearly understand with what consistency the stereotype, which is known in psychology as "thinking in complexes" and signifies the reduction of thought from the theoretical heights to an everyday and political primitive, was put to use in the phantasmagorical court trials, which under Stalin were called scientific debates.

How did this happen? First there were "innocent" simplifications. Next there was the discovery of all sorts of "isms." Then there were political labels and sentences. The trials have sunk, so it seems to us, into the irrevocable past. But thinking in complexes did not get away from us!

Have a look. The Lysenkoites brought down on the heads of geneticists "Michurin science." But now we are shooting up with the same frenzy the plywood target of this "Michurin science" not only at all newspaper crossroads, but also at the general meetings of the academy, recalling with unkind words the sacred thesis that, they say, we cannot expect favors from nature, our task is to take them.

But there was no "Michurin science"! There was first-class domestic biology with a broad front of research—from forestry and the fantastic experiments of Michurin to basic genetic discoveries. And all this together was destroyed. And a certain political phantom, with whom we are now polemicizing so desperately, but who had nothing in common with the real Michurin, loomed on the ruins. Yes, they made Michurin's quotation the motto of "the taming of nature." But what does Michurin himself, who spoke about nothing but the breeding of new strains, which for him, incidentally, turned out rather well, have to do with things here?

Of course, our similar current exercises are harmless as compared with the accusations of the distortion of Lenin's theory of repulsion and of complicity against those who "are undermining the cause of the struggle for

the overthrow of capitalism," with which Academician L. Orbeli was favored during the 1950 debate on physiology. But let us recall: Everything then also began with a little thing, with small simplifications, with hardly perceptible deviations from the truth, which then grew in geometric progression into generalizations and accusations.

All the lynchings by the totalitarian system of science were based, in essence, on this stereotype. Academy meetings were reduced to court trials; scientific debates were reduced to the search for "class" enemies and saboteurs (Stalin expressed himself in this regard with his characteristic terseness: "Class enemies lie behind our difficulties"), the natural dialog of domestic science with foreign science was reduced to self-abasement before the West (subsequently this "simplification" went even farther—to frenzied anti-Semitism).

When they were beating with the "Pavlovian" club the most faithful pupil of Academician Pavlov, Leon Orbeli, one of those, who decided on the public defense of the truth, said: "...if you take three objects: an apple, a wheel, and Chichikov, they all have a certain common quality of roundness. But if you try to combine them in practice, they are in no way—geometrically, chemically, biologically, or socially—compatible with each other."

He could also have said it in a shorter way: There is an elderberry bush in the garden, while uncle is in Kiev. But at that time people were not in the mood for humor, for incompatible concepts were combined ruthlessly, but if at the meeting points nothing came of it, the ideological axes went into action.

For the sake of what should one recall this once more? For the sake of demanding, having driven them into a corner, confessions from yesterday's executioners and procurators with academic titles or of rousing descendants, who are full of just hatred, to the exhumation of corpses and the smashing of bronze and granite idols? I think that we should always remember this for another, far more serious reason: The evil of past years has the frightening peculiarity of surviving, by changing to new colors and by passing into the new, victorious structures and forms.

If you think seriously about the return of freedom to scientific inquiry, first of all it is necessary to defend it against this pressure of simplified stereotypes and against the unprecedented supremacy of politics over science. For too long science, which is called upon itself to be among the shaft horses of social development, was among the trace horses of politics. And, quite frankly, we have not gotten rid of this to this day.

Do today's quarrels over the fate of both the union Academy of Sciences and the already conceived, but not yet born Russian Academy (RAN) really not testify to this? A reasonable solution, which frees science from the authority of union, republic, and any other state structures, it would seem, has been found. But that is not the case, the parliament of Russia decided to establish "its

own" Russian Academy of Sciences. While later the authorities of the RSFSR actually disavowed the Ukase of the USSR President on the sovereignty of science, taking under its jurisdiction state property on the territory of the republic, and scientists have begun to guess: Are they the masters at their institutes or not yet? The tangled mass of interrelations of science with state authority so far has not been untangled. And this, perhaps, is one of the most complex legacies of totalitarianism, which as before is affecting the freedom of scientific creativity.

After 1925, when the Russian Academy of Sciences was renamed the All-Union Academy of Sciences, it, while formally retaining its independence, sank deeper and deeper into historically unprecedented dependence on the state. At that time its executives could be immediately replaced in accordance with one personal telegram of Stalin, and deletion from the list of "immortals" automatically followed arrests by state security organs.

Do not think that this is the distant past. I remember well how during the years of perestroika President of the USSR Academy of Sciences Academician G. Marchuk in response to the demand to specify clearly the stand of the academy on the most urgent ecological problems (the Volga-Chorgay canal, the Leningrad dike) said all the time that "the party Central Committee and the government" gave us the assignment, we are fulfilling it, while the decision will be made from above. Such stereotypes do not leave one's consciousness in a year or two. The overcoming of servile bondage in ourselves and in academic structures is, perhaps, the main thing that faces the community of our scientists, in whatever forms the vicissitudes of modern history reunite them.

This is on the one hand. While on the other, do the new democratic authorities have enough intelligence and tact not to adopt the methods of their predecessors regarding the "wise supervision" of science and at the same time not to abandon the maximum support of basic research, which does not yield immediate receipts in currency?

Recent events confirm: The apprehensions are not unfounded. At a recent meeting of the USSR State Council all the executives of both the country and the republics vowed that they would not allow basic science to come to harm. But...none of them said specifically what assets will be allocated for these goals and at what times.

Meanwhile, in its day the Soviet state back in the spring of 1918 scraped together from the then meager budget a quite significant amount of assets for the continuation of the most important research. And, for example, Academician I. Pavlov, who wrote to Lenin: "I am not a specialist and do not believe in your dangerous social experiment," and who demonstratively wore tsarist orders and crossed himself at every church, received, at the insistence of Lenin, everything necessary for his

scientific work (Academician P. Kapitsa recalled this example to Yu. Andropov in a letter in defense of A. Sakharov).

During the famine years they fed Pavlov's dogs in such a way that Academician A. Krylov once said to Pavlov: Would it be possible to get me a job with you as a little dog? As is known, Pavlov resolutely rejected a special ration for himself. But the experiments required considerable, not beggarly expenditures. And the state agreed to them.

It is not difficult to imagine with what kind of glances philistines looked at that time at these well-fed dogs of Pavlov. It is distressing, but the situation is now being repeated at the same time. More and more often complaints are being heard: Who needs observatories and elementary particle accelerators, when a winter of famine and an unpredictable increase of prices lie ahead? Recently, when preparing a report about Otto Yuliyevich Shmidt, I heard from a colleague: For what does the newspaper need some Shmidts, when near Moscow potatoes are being lost in the fields?

In such sentiments the most far-sighted contemporaries always saw an enormous danger: The embitterment of the people with the difficult conditions of existence is so easily readdressed to a very thin stratum of high spiritual culture, to "abstract" science.

From remote decades the warning of well-known radiologist M.I. Nemenov has been addressed to us: "They hated us because at this time of famine and wholesale deaths hatred was the common expression of despair. Any initiative of someone else irritated the worn-out hungry people, reminding themselves that by force of circumstances they themselves have become steeped in agonizing worries about potatoes or an eighth of a loaf of bread."

We must also not forget today that this hatred has already more than once become a culture medium in broad strata of society for Lysenkoism in its most diverse manifestations. Such a danger remains. It lies both in the invincibility of the remainder principle with respect to education, science, and culture and in the fact that the opportunity remains at any moment to direct the dissatisfaction of the people with their existence against scientists, who are studying some sort of little fruit flies, while they, the people, are starving.

Of course, the question is not trivial. Now we simply cannot afford the broad front of basic research, which we supported about 10 years ago. And still.... The first generations of Soviet scientists maintained this front with the direct support of the state. And it is not their fault that subsequent leaders of the country gravitated toward the conviction that it is possible to give orders to scientists like soldiers in the barracks. And they put these convictions into practice, having driven science into "little worlds."

At this point a counter question usually arises: But what is to be done with the deportation in 1922 of the best philosophers and writers? The situation is ambiguous. A significant portion of the intellectual potential of Russia still did not leave it and cooperated with the Soviet government. But the moment was truly crucial. Because for the first time since the revolution, in the words of M. Yaroshevskiy, "punitive administrative measures were applied to dissidents, who did not commit deeds aimed at the violent overthrow of the existing order and were not involved in any hostile political actions against it. The extremely dangerous precedent of a state ban on scientific and philosophical dissent appeared."

In recent years much effort has been devoted to the restoration of the truth about repressed scientists. But there is another frightening truth. Repressed science is not simply the title of the book, not a figurative expression. This is an exact definition which is being introduced by the authors into scientific use.

All science was repressed and deprived of freedom. Freedom of dissent (for the discovery of new truths and new knowledge about nature and society is also dissent), freedom of debates—integral fundamental concepts of the existence of science itself. But is it clear to us that to this day it has not been possible to open all the valves for the free breathing of science and to restore the normal conditions of scientific debates, given all the boundless freedom of rally debates? Until this climate of the equality of ideas, positions, scientific schools, and directions is revived in all fullness in research audiences, it is too early to talk about the rehabilitation of science in our society.

We are being confronted to this day with metastases of this lack of freedom, coming across the most sharp conflicts now around Baykal, now around the fate of northern rivers, now around the Leningrad dike. And everywhere the same primary source is being found at

the root: the lack of both social democracy and scientific and technological democracy when elaborating, approving, and implementing projects. Such metastases are not eliminated in a single hour by some presidential ukases, whether union or Russian, by parliamentary or academic decisions. We will end up with nothing here, if we do not restore the personal, ethical potential of our science, which was fairly well destroyed both by the dictatorship of Stalin and by Brezhnev's aspiritual, immoral period of stagnation.

The aphorism: Yes, there was a cult, but there was also a personality, is well known. It is a frightening aphorism. For how many genuine individuals of domestic history and culture were wiped out in the name of the legend, which transfers the tyrant to the hypostasis of a great individual. But precisely the courage of both thought and deed, the spiritual resistance, which Stalin and his successors encountered on the part of the scientific intelligentsia, on the part of prominent individuals—from Pavlov to Kapitsa and Sakharov—who in their opposition to totalitarianism supported the honor and ethical eminence of science, is striking.

And now today, after the death of Kapitsa and Sakharov, you involuntarily ponder: Where is the personal potential, which will not let the fire burn out and will pass it on in the new century? There are more than enough grounds for courageous deeds. But deeds for some reason are not evident. Hope, of course, is for the young. But are there not among them, as one of the patriarchs of our science expressed himself, too many carriers of the briefcases of academicians, who dream in the future of surrounding themselves with the same kind of carriers of briefcases? I would not want to think that this is precisely the way it is.

Footnote

1. *Repressirovannaya nauka (Repressed Science)*, edited by M.G. Yaroshevskiy, compiled by L.I. Melua and V.M. Orel, Nauka, Leningrad, 1991.